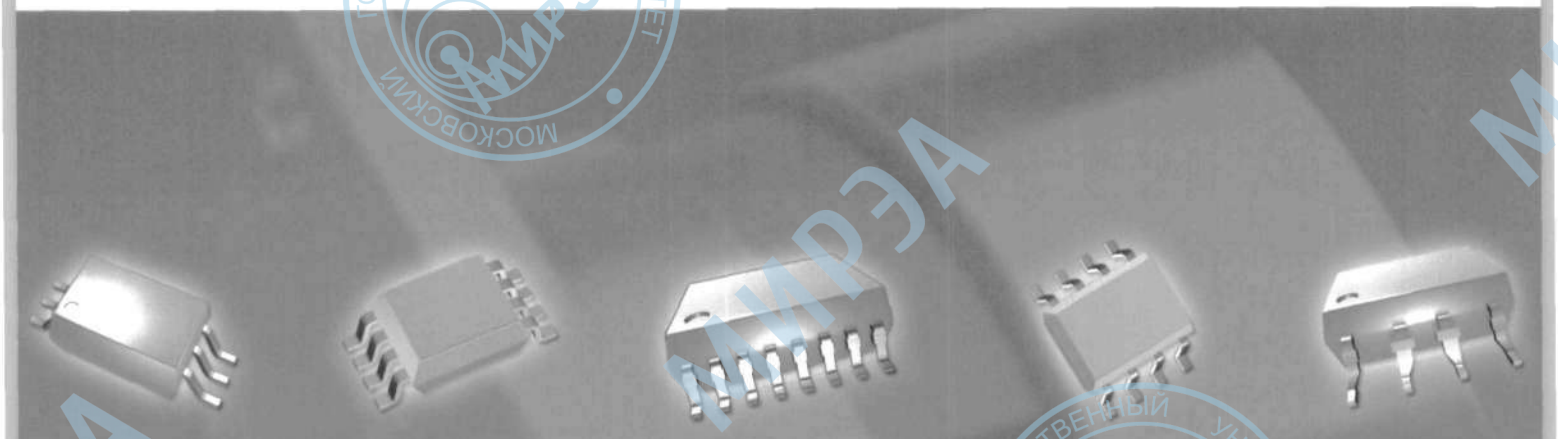
1101122

RENESAS

Optocoupler
Selection Guide



Renesas Electronics
www.renesas.eu

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High Speed Communication	Current & Voltage Sensing	General Purpose Isolation
		PS2501A, PS2561D
		PS2533, PS2535, PS2733
S9X17A, PS9X21, PS9X51		
S9115, PS9X17A, PS9X51		
S9317, PS9587		PS2561D
S8101, PS8802, PS9X17A, PS9X21, PS9X51		PS29XX
		PS25xx, PS27xx
		PS2381X, PS2501, PS2561D,
		PS25X1, PS27X1
S9X17A, PS9X21		PS25XX, PS27XX
		PS2381, PS2561D, PS27XX, PS28XX
		PS2381, PS2561D
S91XX, PS98XX		
S8XX, PS9X17A		PS2381, PS2501, PS2561, PS2581, PS2701
S8302, PS85XX, PS9X17A, PS9317, PS9587	PS8551, PS9551	PS25XX, PS27XX, PS28XX
	PS8551, PS9551	PS27X1, PS28X1
		PS27X1, PS28X1
S8X21, PS9X21, PS9X17A, PS9X51		PS2X11, PS2XX5
S9X21, PS9X51, PS9X17A		
S9115, PS9X17A, PS9X51		
S8802, PS9122, PS9822		PS27X1, PS28X1
S9X17A, PS9X51		PS2381, PS25X1, PS2X61B
S9317, PS9587		PS2X61B, PS27X1, PS28X1, PS29XX
		PS2561X, PS2561D
S9117A, PS9817A		PS2701, PS28XX-1, PS28XX-4
S8101, PS9117A	PS8551, PS9551	PS27X1, PS28X1
S8XXX, PS9X17A, PS9X51	PS8551, PS9551	PS25XX, PS27XX, PS28XX, PS29XX
		PS2535, PS2X33
	PS8551, PS9551	
S8302, PS85XX, PS9317, PS9587		
		PS27X1, PS28X1, PS29X1
S9X17A, PS9X21, PS9X51		PS25XX, PS27XX, PS28XX, PS29XX
	PS8551, PS9551	

Optocoupler Quick Guide

Series	Package	Pin-to-pin distance in mm	Outer creepage/ air distance in mm	Internal isolation thickness in mm	Isolation working voltage in V_{IORM}	Isolation voltage in V_{RMS}	
PS95xxL2	DIP (8-pin)	2.54	8	0.4	1130	5000	High-speed optocoupler
PS95xxL3			7				
PS85xxL2			8				
PS85xxL3			7				
PS93xxL2	SDIP (6-pin)	1.27	8	0.4	1130	5000	
PS93xxL			7				
PS83xxL2			8				
PS83xxL			7				
PS91xx	SOP (5-pin)	1.27	4.2	0.2	707	3750	
PS81xx							
PS98xx	SO8 (8-pin)	1.27	4	0.2	566	2500	
PS88xx							
PS95xxL2	DIP (8-pin)	2.54	8	0.4	1130	5000	IGBT-/IPM-drive / Isolation amplifier
PS95xxL3			7				
PS8551L4			8				
PS9302L	SDIP (8-pin) SDIP (6-pin)	1.27	8/7	0.4	1130	5000	
PS93xxL2			8				
PS93xxL			7				
PS9451	SO16 (16-pin)	1.27	8	0.4	1130	5000	
PS9402		1.27	8	0.4	1130	5000	
PS91xx	SOP (5-pin)	1.27	4.2	0.2	707	3750	
PS2381	LSOP	2.54	8	0.4		5000	Transistor output / DC Input
PS2581	DIP	2.54	8	0.4		5000	
PS256x		2.54	7	0.4		5000	
PS253x				0.4			
PS251x				0.2			
PS250x				0.3			
PS276x	SOP	2.54	5	0.4		3750	
PS273x				0.3			
PS271x				0.3			
PS270x				0.3			
PS286x	SSOP	1.27	4.5	0.4		3750	
PS283x				0.1		2500	
PS281x				0.1		2500	
PS280x				0.1		2500	
PS284x	Ultra SSOP	0.8	4	0.4		1500	
PS29xx	Flat lead	1.27	4	0.4		2500	
PS256x	DIP	2.54	7	0.4		5000	Transistor output / AC Input
PS250x				0.3			
PS271x	SOP	2.54	5	0.3		3750	
PS270x							
PS281x	SSOP	1.27	4.5	0.1		2500	
PS280x							
PS284x	Ultra SSOP	0.8	4	0.4		1500	
PS29xx	Flat lead	1.27	4	0.4		2500	

Cross Reference Guide

Avago	Renesas
ACPL-3130	PS9552
ACPL-332J	PS9402
HCPL-316J	PS9402
ACPL-J313	PS9552-V
ACPL-M60L	PS9121
ACPL-P302	PS9306L
ACPL-P314	PS9306L
ACPL-P611	PS9317L
ACPL-W302	PS9306L2
ACPL-W314	PS9306L2
ACPL-W611	PS9317L2
HCPL-0201	PS9817A-1
HCPL-0211	PS9817A-1
HCPL-3020	PS9506
HCPL-3120	PS9552
HCPL-3140	PS9506
HCPL-3150	PS9506
HCPL-786J	PS9451
HCPL-J312	PS9552-V
HCPL-M453	PS8101
HCPL-T251	PS9506
6N135	PS8501 or PS8501L3
6N136	PS8501 or PS8501L3
6N137	PS9587 or PS9587L3
ACPL-T350	PS9552
HCPL-0452	PS8802-1
HCPL-0453	PS8802-1
HCPL-0530	PS8802-2
HCPL-0531	PS8802-2
HCPL-0534	PS8802-2
HCPL-0600	PS9817A-1
HCPL-0601	PS9817A-1
HCPL-060L	PS9821-1
HCPL-0611	PS9817A-1
HCPL-0630	PS9817A-2
HCPL-0631	PS9817A-2
HCPL-063L	PS9821-2
HCPL-0661	PS9817A-2
HCPL-0700	PS8802-1
HCPL-0701	PS8802-1
HCPL-0708	PS9851-1
HCPL-0730	PS8802-2
HCPL-0731	PS8802-2
HCPL-0738	PS9851-2
HCPL-2502	PS8501 or PS8501L3
HCPL-2601	PS9587 or PS9587L3
HCPL-2611	PS9587 or PS9587L3
HCPL-4502	PS8502 or PS8502L3
HCPL-4503	PS8502 or PS8502L3
HCPL-4504	PS9513 or PS9513L3
HCPL-4506	PS9513 or PS9513L3
HCPL-7510	PS8551L4
HCPL-7520	PS8551L4
HCPL-7560	PS9551L4
HCPL-7800	PS8551L4
HCPL-7840	PS8551L4
HCPL-7860	PS9551L4
HCPL-J454	PS9513-V or PS9513L3-V
HCPL-J456	PS9513-V or PS9513L3-V
HCPL-M452	PS8101
HCPL-M454	PS9113
HCPL-M456	PS9113
HCPL-M600	PS9117A
HCPL-M601	PS9117A
HCPL-M611	PS9117A
HCPL-M700	PS9113
HCPL-M701	PS9113

Toshiba	Renesas
TLP102	PS9113
TLP112	PS8101
TLP112A	PS8101
TLP113	PS9117A
TLP114A	PS8101
TLP115	PS9117A
TLP115A	PS9117A
TLP116	PS9115
TLP120	PS2705A-1
TLP121	PS2701A-1
TLP121(GB)	PS2701A-1
TLP121(GR)	PS2701A-1

Toshiba	Renesas
TLP121(Y)	PS2701A-1
TLP121-4	PS2701A-1
TLP127	PS2733-1
TLP180	PS2705A-1
TLP180(GB)	PS2705A-1
TLP180(T)	PS2705A-1
TLP181	PS2701A-1
TLP181(BL)	PS2703-1
TLP181(GB)	PS2701A-1
TLP181(GR)	PS2701A-1
TLP181(T)	PS2701A-1
TLP181(Y)	PS2701A-1
TLP250	PS9552
TLP250(INV)	PS9552
TLP250F	PS9552L1
TLP250F(INV)	PS9552L1
TLP280	PS2805C-1
TLP280(GB)	PS2805C-1
TLP280-4	PS2805C-4
TLP280-4(GB)	PS2805C-4
TLP281	PS2801C-1
TLP281(GB)	PS2801C-1
TLP281-4	PS2801C-4
TLP281-4(GB)	PS2801C-4
TLP320	PS2525-1
TLP321	PS2501A-1 or PS2561D-1
TLP321(BL)	PS2501A-1 or PS2561D-1
TLP321(GB)	PS2501A-1 or PS2561D-1
TLP321(GR)	PS2501A-1 or PS2561D-1
TLP321(Y)	PS2501A-1 or PS2561D-1
TLP321-4	PS2501-4
TLP321-4(GB)	PS2501-4
TLP350	PS9552
TLP350F	PS9552L1
TLP351	PS9506
TLP421	PS2501A-1 or PS2561D-1
TLP421(BL)	PS2561-1
TLP421(GB)	PS2501A-1 or PS2561D-1
TLP421(GR)	PS2501A-1 or PS2561D-1
TLP421(Y)	PS2501A-1 or PS2561D-1
TLP421F	PS2581AL1
TLP421F(BL)	PS2581L1
TLP421F(GB)	PS2581AL1
TLP421F(GR)	PS2581AL1
TLP421F(Y)	PS2581AL1
TLP521-1	PS2501A-1
TLP521-1(BL)	PS2501A-1
TLP521-1(GB)	PS2501A-1
TLP521-1(GR)	PS2501A-1
TLP521-1(T)	PS2501A-1
TLP521-1(Y)	PS2501A-1
TLP521-4	PS2501-4
TLP521-4(GB)	PS2501-4
TLP523	PS2533-1 or PS2535-1
TLP550	PS8502
TLP551	PS8501
TLP559	PS8502
TLP559(IGM)	PS9513
TLP620	PS2565-1
TLP620(GB)	PS2565-1
TLP620(T)	PS2565-1
TLP620F	PS2565L1-1
TLP621	PS2501A-1 or PS2561D-1
TLP621(BL)	PS2561-1
TLP621(GB)	PS2501A-1 or PS2561D-1
TLP621(GR)	PS2501A-1 or PS2561D-1
TLP621(T)	PS2501A-1 or PS2561D-1
TLP621(Y)	PS2501A-1 or PS2561D-1

Toshiba	Renesas
TLP627	PS2535-1 or PS2533-1
TLP627(T)	PS2535-1
TLP627A	PS2535-1
TLP629	PS2521-1
TLP651	PS8501
TLP701	PS9306
TLP705	PS9306
TLP706	PS9303
TLP721	PS2501A-1 or PS2561D-1
TLP721(BL)	PS2561-1
TLP721(GB)	PS2501A-1 or PS2561D-1
TLP721(GR)	PS2501A-1 or PS2561D-1
TLP721(Y)	PS2501A-1 or PS2561D-1
TLP721F	PS2581AL1
TLP721F(GB)	PS2581AL1
TLP750	PS8502
TLP750F	PS8502L1
TLP751	PS8501
TLP751F	PS8501L1
TLP759	PS8502
TLP759(IGM)	PS9513
TLP759F	PS8502L1
TLP759F(IGM)	PS9513L1
TLP172A	PS7206-1A
TLP172G	PS7241E-1A
TLP176A	PS7206-1A
TLP176G	PS7241E-1A
TLP176GA	PS7241E-1A
TLP179D	PS7241E-1A
TLP202G	PS7241-2A
TLP206G	PS7241-2A
TLP206GA	PS7241-2A

Sharp	Renesas
6N135	PS8501
6N136	PS8501
6N137	PS9587
PC123	PS2561A-1 or PS2561D-1
PC123A	PS2561A-1 or PS2561D-1
PC123B	PS2561A-1 or PS2561D-1
PC123C	PS2561-1
PC123F	PS2581AL1
PC123F1	PS2581AL1
PC123F2	PS2581AL1
PC123F5	PS2581L1
PC123FP	PS2581AL2
PC123FP1	PS2581AL2
PC123FP2	PS2581AL2
PC123FP5	PS2581L2
PC123FP8	PS2581AL2
PC123FS	PS2581AL1
PC123FY	PS2581AL1
PC123FY1	PS2581AL1
PC123FY2	PS2581AL1
PC123FY5	PS2581L1
PC123FY8	PS2581AL1
PC123P	PS2561A-1 or PS2561D-1
PC123P1	PS2561A-1 or PS2561D-1
PC123P2	PS2561A-1 or PS2561D-1
PC123P5	PS2561L-1
PC123PS	PS2561A-1 or PS2561D-1
PC123PY	PS2561A-1-V or PS2561D-1-V
PC123PY1	PS2561A-1-V or PS2561D-1-V
PC123PY2	PS2561A-1-V or PS2561D-1-V
PC123PY5	PS2561L-1-V
PC123PY8	PS2561A-1-V or PS2561D-1-V
PC123S	PS2561A-1 or PS2561D-1

Sharp	Renesas
PC123Y	PS2561A-1-V or PS2561D-1-V
PC123Y1	PS2561A-1-V or PS2561D-1-V
PC123Y2	PS2561A-1-V or PS2561D-1-V
PC123Y5	PS2561-1-V
PC123YS	PS2561A-1-V or PS2561D-1-V
PC123ZY	PS2581AL2
PC123ZY1	PS2581AL2
PC123ZY2	PS2581AL2
PC123ZY5	PS2581L2
PC123ZY8	PS2581AL2
PC352	PS2701A-1
PC354N1	PS2715-1
PC354NJ	PS2715-1
PC355NJ	PS2702-1
PC356NJ	PS2711-1
PC357N0T	PS2701A-1
PC357N1T	PS2701A-1
PC357N2T	PS2701A-1
PC357N3T	PS2703-1
PC357N4T	PS2711-1
PC357N5T	PS2701A-1
PC357N6T	PS2701A-1
PC357N7T	PS2703-1
PC357N8T	PS2701A-1
PC357N9T	PS2701A-1
PC357NT	PS2701A-1
PC358	PS2703-1
PC365N	PS2702-1 or PS2706-1
PC367N1	PS2711-1
PC367N2	PS2711-1
PC367NJ	PS2711-1
PC3H4	PS2815-1
PC3H410NIP	PS2815-1
PC3H411NIP	PS2815-1
PC3H7	PS2811-1 or PS2801C-1
PC3H710NIP	PS2811-1
PC3H711NIP	PS2811-1
PC3H712NIP	PS2811-1
PC3H715NIP	PS2811-1
PC3Q64	PS2815-4
PC3Q64Q	PS2815-4
PC3Q65	PS2802-4
PC3Q66Q	PS2811-4
PC3Q67Q	PS2801C-4
PC410	PS9117A
PC410L0NIP	PS9117A
PC411L	PS9151
PC417	PS8101
PC452	PS2733-1
PC457L0NIP	PS8101
PC457S	PS8802-1
PC4D10S	PS9817A-2
PC812	PS2501A-1
PC812A	PS2501A-1
PC812B	PS2501A-1
PC812C	PS2501A-1
PC814X	PS2505-1
PC814X1	PS2505-1
PC815	PS2502-1
PC816	PS2501A-1
PC816A	PS2501A-1
PC816AB	PS2501A-1
PC816AC	PS2501A-1
PC816AD	PS2501A-1
PC816B	PS2501A-1
PC816BC	PS2501A-1
PC816BD	PS2501A-1
PC816C	PS2501A-1
PC816CD	PS2501A-1
PC816D	PS2501-1
PC817X	PS2501A-1
PC817X0	PS2501A-1
PC817X1	PS2501A-1
PC817X2	PS2501A-1
PC817X3	PS2501A-1
PC817X4	PS2501-1
PC817X5	PS2501A-1

Sharp	Renesas
PC817X6	PS2501A-1
PC817X7	PS2501A-1
PC817X8	PS2501A-1
PC817X9	PS2501A-1
PC817XF	PS2561AL1-1 PS2561DL1-1
PC817XF0	PS2561AL1-1 PS2561DL1-1
PC817XF1	PS2561AL1-1 PS2561DL1-1
PC817XF2	PS2561AL1-1 PS2561DL1-1
PC817XF3	PS2561AL1-1 PS2561DL1-1
PC817XF5	PS2561AL1-1 PS2561DL1-1
PC817XF6	PS2561AL1-1 PS2561DL1-1
PC817XF7	PS2561L1-1
PC817XF8	PS2561AL1-1 PS2561DL1-1
PC817XF9	PS2561AL1-1 PS2561DL1-1
PC817XFP	PS2561AL2-1 PS2561DL2-1
PC817XI	PS2501AL-1
PC817XI0	PS2501AL-1
PC817XI1	PS2501AL-1
PC817XI2	PS2501AL-1
PC817XI3	PS2501AL-1
PC817XI4	PS2501L-1
PC817XI5	PS2501AL-1
PC817XI6	PS2501AL-1
PC817XI7	PS2501AL-1
PC817XI8	PS2501AL-1
PC817XI9	PS2501AL-1
PC817XP	PS2501AL-1
PC817XP0	PS2501AL-1
PC817XP1	PS2501AL-1
PC817XP2	PS2501AL-1
PC817XP3	PS2501AL-1
PC817XP4	PS2501L-1
PC817XP5	PS2501AL-1
PC817XP6	PS2501AL-1
PC817XP7	PS2501AL-1
PC817XP8	PS2501AL-1
PC817XP9	PS2501AL-1
PC826	PS2501-1
PC845	PS2502-4
PC846	PS2501-4
PC847	PS2501-4
PC847AB	PS2501-4
PC847AC	PS2501-4
PC847AD	PS2501-4
PC847BC	PS2501-4
PC847BD	PS2501-4
PC847CD	PS2501-4
PC852	PS2535-1
PC852X	PS2533-1 or 1
PC853	PS2535-1
PC853H	PS2535-1
PC853X	PS2533-1 or
PC865	PS2533-1 or
PC910X	PS9587
PC917X	PS8502
PC918X	PS8501
PC922	PS9552
PC925L	PS9552
PC957L0NSZ	PS8502
PH3H5	PS2802-1
PH4H520NIP	PS2833-1

Fairchild	Renesas
6N135	PS8501
6N136	PS8501
FOD053L	PS8821-2
FOD3181	PS9552
FOD617A	PS2561B-1 o PS2561D-1
FOD617B	PS2561B-1 o PS2561D-1

Fairchild	Renesas
FOD617C	PS2561B-1 or PS2561D-1
FOD617D	PS2561B-1 or PS2561D-1
FOD817	PS2561B-1 or PS2561D-1
FOD817A	PS2561B-1 or PS2561D-1
FOD817B	PS2561B-1 or PS2561D-1
FOD817C	PS2561B-1 or PS2561D-1
FOD817D	PS2561B-1 or PS2561D-1
FOD852	PS2533-1
FODM2701	PS2761B-1
FODM2701A	PS2761B-1
FODM2701B	PS2761B-1
FODM452	PS8101
FODM453	PS8101
H11A617A	PS2561A-1 or PS2561D-1
H11A617B	PS2561A-1 or PS2561D-1
H11A617C	PS2561A-1 or PS2561D-1
H11A617D	PS2561-1
H11A817	PS2561A-1 or PS2561D-1
H11A817A	PS2561A-1 or PS2561D-1
H11A817B	PS2561A-1 or PS2561D-1
H11A817C	PS2561-1
H11A817D	PS2561-1
H11B815	PS2502-1
HCPL-0452	PS8802-1
HCPL-0453	PS8802-1
HCPL-0530	PS8802-2
HCPL-0531	PS8802-2
HCPL-0534	PS8802-2
HCPL-062N	PS9821-2
HCPL-0637	PS9817A-2
HCPL-0638	PS9817A-2
HCPL-0639	PS9817A-2
HCPL-0708	PS9851-1
HCPL-0738	PS9851-2
HCPL-2502	PS8501
HCPL-2503	PS8501
HCPL-4502	PS8502
HCPL-500	PS8501
HCPL-501	PS8501
HMA121	PS2701A-1
HMA121A	PS2701A-1
HMA121B	PS2701A-1
HMA121C	PS2701A-1
HMA121D	PS2701A-1
HMA121E	PS2701A-1
HMA2701	PS2701A-1
HMA2701A	PS2701A-1
HMA2701B	PS2701A-1
HMA2705	PS2705A-1
HMAA2705	PS2705A-1 or PS2765-1
HMHA2801	PS2801C-1
HMHA2801A	PS2801C-1
HMHA2801B	PS2801C-1
HMHA2801C	PS2801C-1
HMHA281	PS2801C-1
HMHAA280	PS2805C-1
MCL2501	PS8501
MCL2502	PS8501
MCL2503	PS8501
MCL2601	PS9587

Vishay	Renesas
6N135	PS8501 or PS8501L3
6N135-3054	PS8501
6N136	PS8501 or PS8501L1 or PS8501L3
6N136-3055	PS8501
K814P	PS2565-1
K815P	PS2562-1

Vishay	Renesas
K817P	PS2561A-1 or PS2561D-1
K817P1	PS2561A-1 or PS2561D-1
K817P2	PS2561A-1 or PS2561D-1
K817P3	PS2561A-1 or PS2561D-1
K817P4	PS2561A-1 or PS2561D-1
K817P5	PS2561A-1 or PS2561D-1
K817P6	PS2561A-1 or PS2561D-1
K817P7	PS2561A-1 or PS2561D-1
K817P8	PS2561A-1 or PS2561D-1
K817Ps	PS2561-1
SFH1617A-1	PS2561B-1 or PS2561D-1
SFH1617A-2	PS2561B-1 or PS2561D-1
SFH1617A-3	PS2561B-1 or PS2561D-1
SFH1617A-4	PS2561B-1 or PS2561D-1
SFH1690ABT	PS2761B-1
SFH1690AT	PS2761B-1
SFH1690BT	PS2761B-1
SFH1690CT	PS2761B-1
SFH612A	PS2562-1
SFH6135	PS8501
SFH6136	PS8501
SFH615-1	PS2561A-1 or PS2561D-1
SFH615-2	PS2561A-1 or PS2561D-1
SFH615-3	PS2561A-1 or PS2561D-1
SFH615-4	PS2561-1
SFH6156-1	PS2561AL-1 or PS2561DL-1
SFH6156-2	PS2561AL-1 or PS2561DL-1
SFH6156-3	PS2561AL-1 or PS2561DL-1
SFH6156-4	PS2561L-1
SFH615A-1	PS2561D-1 or PS2561DL-1
SFH615A-2	PS2561D-1 or PS2561DL-1
SFH615A-3	PS2561D-1 or PS2561DL-1
SFH615A-4	PS2561D-1 or PS2561DL-1
SFH615AA	PS2561D-1 or PS2561DL1
SFH615AB	PS2561D-1 or PS2561DL1
SFH615ABL	PS2561-1 or PS2581L1
SFH615ABM	PS2561-1 or PS2581L1
SFH615AGB	PS2561D-1 or PS2561DL1
SFH615AGR	PS2561D-1 or PS2561DL1
SFH615AY	PS2561D-1 or PS2561DL1
SFH617A-1	PS2561D-1 or PS2561DL1
SFH617A-2	PS2561D-1 or PS2561DL1
SFH617A-3	PS2561D-1 or PS2561DL1
SFH617A-4	PS2561D-1 or PS2561DL1
SFH617G-1	PS2581AL1
SFH617G-2	PS2581AL1
SFH617G-3	PS2581AL1
SFH617G-4	PS2581L1
SFH6186-2	PS2503L-1
SFH6186-3	PS2503L-1

Vishay	Renesas
SFH6186-4	PS2503L-1
SFH6186-5	PS2503L-1
SFH619A	PS2535-1 or PS2535L-1
SFH620-1	PS2565-1
SFH620-2	PS2565-1
SFH620-3	PS2565-1
SFH6206-1	PS2565L-1
SFH6206-2	PS2565L-1
SFH6206-3	PS2565L-1
SFH620AA	PS2565-1 or PS2565L-1
SFH620AGB	PS2565-1 or PS2565L-1
SFH6286-2	PS2565L-1
SFH6286-3	PS2565L-1
SFH6286-4	PS2565L-1
SFH6343T	PS8802-1
SFH6345	PS8502 or PS8502L1 or PS8502L3
SFH655A	PS2562-1 or PS2562L-1
SFH6755T	PS9817A-2
SFH6756T	PS9817A-2
SFH6757T	PS9817A-2
SFH690ABT	PS2701A-1
SFH690AT	PS2701A-1
SFH690BT	PS2701A-1
SFH690CT	PS2701A-1
SFH690DT	PS2701A-1
SFH6910	PS2801C-4
SFH691AT	PS2705A-1 or PS2765-1
SFH692AT	PS2733-1
TCED1100	PS2562-1
TCED1100G	PS2562L1-1
TCET1100	PS2561A-1 or PS2561D-1
TCET1100G	PS2581AL1
TCET1101	PS2561A-1 or PS2561D-1
TCET1101G	PS2581AL1
TCET1102	PS2561A-1 or PS2561D-1
TCET1102G	PS2581AL1
TCET1103	PS2561A-1 or PS2561D-1
TCET1103G	PS2581AL1
TCET1104	PS2561-1
TCET1104G	PS2581L1
TCET1105	PS2561A-1 or PS2561D-1
TCET1105G	PS2581AL1
TCET1106	PS2561A-1 or PS2561D-1
TCET1106G	PS2581AL1
TCET1107	PS2561A-1 or PS2561D-1
TCET1107G	PS2581AL1
TCET1108	PS2561A-1 or PS2561D-1
TCET1108G	PS2581AL1
TCET1109	PS2561-1
TCET1109G	PS2581L1
TCET1110	PS2561B-1 or PS2561D-1
TCET1110G	PS2561BL1-1 or PS2561DL1-1
TCET1111	PS2561B-1 or PS2561D-1
TCET1111G	PS2561BL1-1 or PS2561DL1-1
TCET1112	PS2561B-1 or PS2561D-1
TCET1112G	PS2561BL1-1 or PS2561DL1-1
TCET1113	PS2561B-1 or PS2561D-1
TCET1113G	PS2561BL1-1 or PS2561DL1-1
TCET1114	PS2561B-1 or PS2561D-1

Vishay	Renesas
TCET1114G	PS2561BL1-1 or PS2561DL1-1
TCET1115	PS2561B-1 or PS2561D-1
TCET1115G	PS2561BL1-1 or PS2561DL1-1
TCET1116	PS2561B-1 or PS2561D-1
TCET1116G	PS2561BL1-1 or PS2561DL1-1
TCET1117	PS2561B-1 or PS2561D-1
TCET1117G	PS2561BL1-1 or PS2561DL1-1
TCET1118	PS2561B-1 or PS2561D-1
TCET1118G	PS2561BL1-1 or PS2561DL1-1
TCET1119	PS2561B-1 or PS2561D-1
TCET1119G	PS2561BL1-1 or PS2561DL1-1
TCET1600	PS2565-1
TCLT1100	PS2381-1
TCLT1101	PS2381-1
TCLT1102	PS2381-1
TCLT1103	PS2381-1
TCLT1104	PS2381-1
TCLT1105	PS2381-1
TCLT1106	PS2381-1
TCLT1107	PS2381-1
TCLT1108	PS2381-1
TCLT1109	PS2381-1
TCLT1110	PS2381-1
TCLT1111	PS2381-1
TCLT1112	PS2381-1
TCLT1113	PS2381-1
TCLT1114	PS2381-1
TCLT1115	PS2381-1
TCLT1116	PS2381-1
TCLT1117	PS2381-1
TCLT1118	PS2381-1
TCLT1119	PS2381-1
TCMD1000	PS2802-1
TCMD4000	PS2802-4
TCMT1100	PS2801C-1
TCMT1101	PS2801C-1
TCMT1102	PS2801C-1
TCMT1103	PS2801C-1
TCMT1104	PS2801C-1
TCMT1105	PS2801C-1
TCMT1106	PS2801C-1
TCMT1107	PS2801C-1
TCMT1108	PS2801C-1
TCMT1109	PS2801C-1
TCMT1600	PS2805-1 or PS2805C-1
TCMT4100	PS2801C-4
TCMT4600	PS2805-4 or PS2805C-4
VO0630T	PS9817A-2
VO0631T	PS9817A-2
VO0661T	PS9817A-2

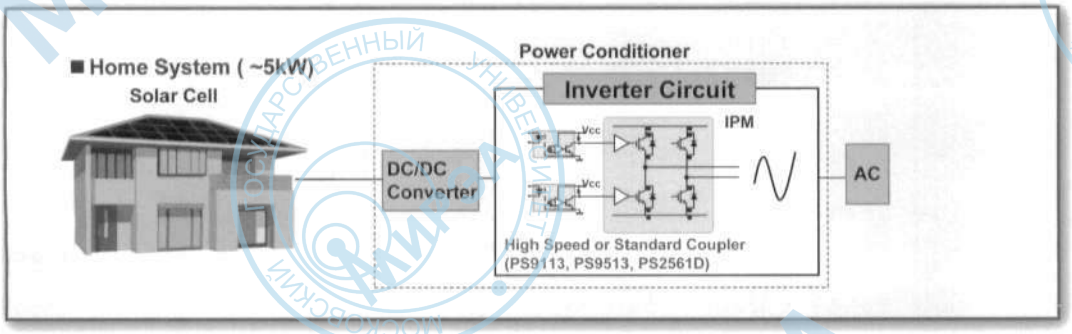
Liteon	Renesas
LTV-123	PS2561A-1 or PS2561D-1
LTV-123-A	PS2561A-1 or PS2561D-1
LTV-123-B	PS2561A-1 or PS2561D-1
LTV-123-C	PS2561-1
LTV-123-F	PS2561A-1 or PS2561D-1
LTV-123-L	PS2561A-1 or PS2561D-1
LTV-123M	PS2561AL1-1 or PS2561DL1-1
LTV-123S	PS2561AL2-1 or PS2561DL2-1
LTV352T	PS2733-1
LTV354T	PS2715-1
LTV354T-A	PS2715-1

Liteon	Renesas
LTV355T	PS2702-1
LTV356T	PS2701A-1
LTV356T-A	PS2701A-1
LTV356T-B	PS2701A-1
LTV356T-C	PS2701A-1
LTV356T-D	PS2701A-1
LTV357T	PS2701A-1
LTV357T-A	PS2701A-1
LTV357T-B	PS2701A-1
LTV357T-C	PS2703-1
LTV357T-D	PS2711-1
LTV357T-E	PS2701A-1
LTV357T-F	PS2701A-1
LTV358T	PS2703-1
LTV358T-A	PS2703-1
LTV358T-B	PS2703-1
LTV358T-C	PS2703-1
LTV815	PS2562-1
LTV815M	PS2562L1-1
LTV815S	PS2562L-1
LTV-816	PS2561A-1 or PS2561D-1
LTV-816-A	PS2561A-1 or PS2561D-1
LTV-816-B	PS2561A-1 or PS2561D-1
LTV-816-C	PS2561-1
LTV-816-D	PS2561-1
LTV-816-L	PS2561A-1 or PS2561D-1
LTV-816M	PS2561AL1-1 or PS2561DL1-1
LTV-816S	PS2561AL-1 or PS2561DL-1
LTV-817	PS2561A-1 or PS2561D-1
LTV-817-A	PS2561A-1 or PS2561D-1
LTV-817-B	PS2561A-1 or PS2561D-1
LTV-817-C	PS2561-1
LTV-817-D	PS2561-1
LTV-817-L	PS2561A-1 or PS2561D-1
LTV-817M	PS2561AL1-1 or PS2561DL1-1
LTV-817S	PS2561AL-1 or PS2561DL-1
LTV824	PS2565-1
LTV-852	PS2535-1
LTV-852S	PS2535L-1

Cosmo	Renesas
K1010A	PS2561A-1 or PS2561D-1
K1010B	PS2561A-1 or PS2561D-1
K1010C	PS2561-1
K1010D	PS2561-1
K1010E	PS2561A-1 or PS2561D-1
KP4010A	PS2535-1
KP4010C	PS2535-1
KP4010D	PS2533-1
KP4010E	PS2535-1
KPC354NT	PS2715-1
KPC355NT	PS2702-1
KPC357NT	PS2701A-1
KPC452	PS2733-1
KPC6N135	PS8501
KPC6N136	PS8501
KPC815	PS2535-1
KPS2801	PS2801C-1
KPS2802	PS2802-1
KPS2805	PS2805-1
KPS2832	PS2833-1

Industrial Application Examples

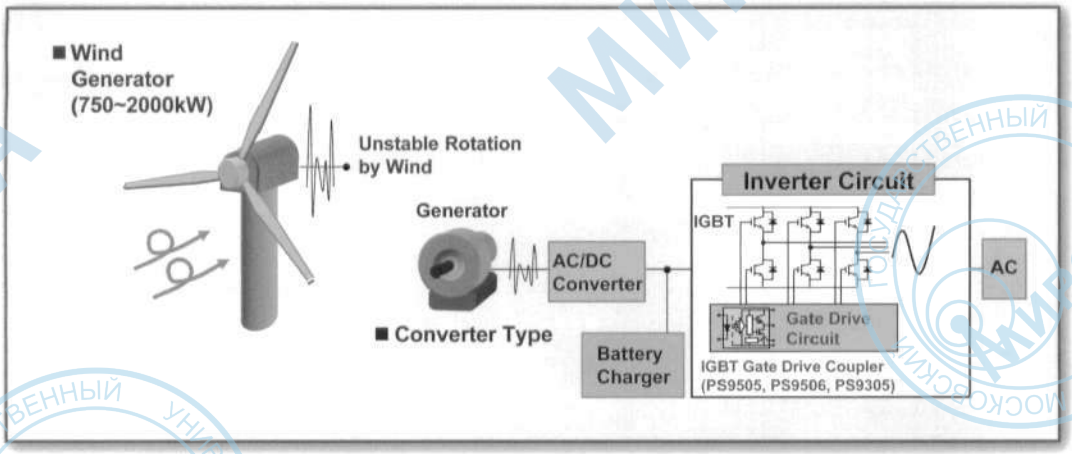
Solar Inverter using Renesas high-speed/standard couplers



PS9X13

- 1 Mbit/s IPM Drive
- High Output Voltage (35 V)
- High Isolation (upto 5 KV)

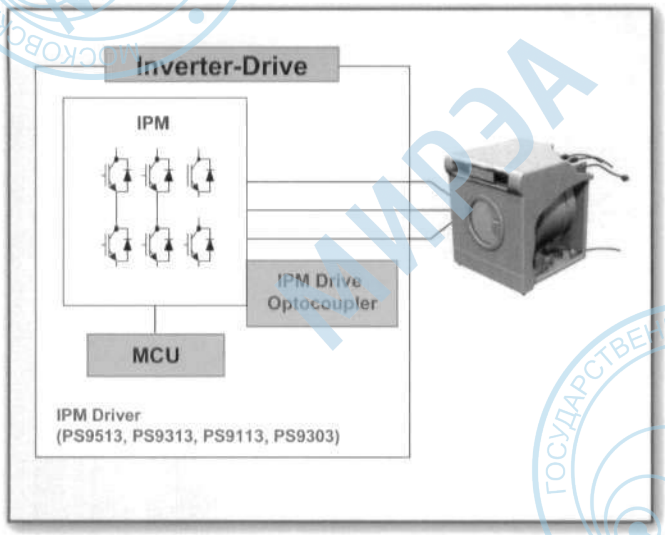
Wind Turbine using Renesas IGBT couplers



PS950X

- IGBT High Speed Gate Drive
- High Isolation (upto 5 KV)
- Creepage distance upto 8 mm

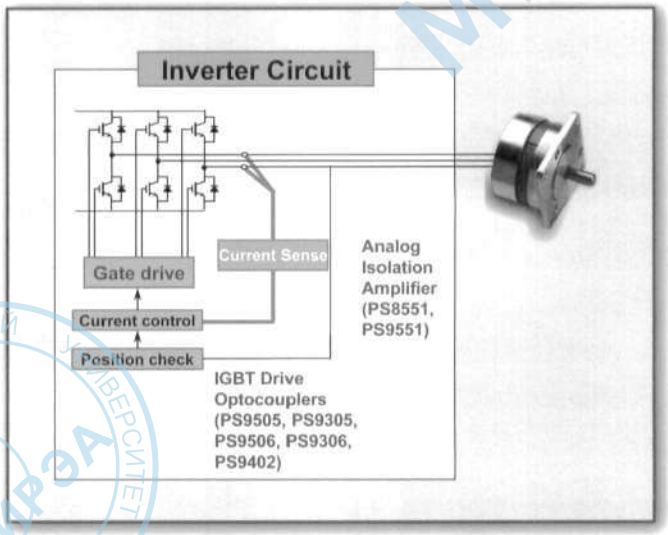
Washing Machine using Renesas IPM driver



PS9XX3

- IPM Driver
- Totem Pole Output
- High Isolation

Industrial Motor using Renesas high-speed couplers



PSX551

- Analog Isolation Amplifier
- High Linearity
- High Accuracy

Applications Guide

	Isolated Drive	
	IGBT	IPM
A.T.E		
Air Conditioning	PS930X, PS950X	PS9113, PS9313, PS9303, PS9513
Alarm Panels		
Board CPU		
CAN Isolation		
Elevator		
E.P.O.S		
Fitness Equipment	PS930X, PS950X	PS9113, PS9313
Heating Controls		
Induction Cooker	PS930X, PS950X	
Instrumentation		
Lighting (Including LED Lighting)		
Lighting (Fluorescent)		
M.R.I	PS930X, PS950X	
Metering (Including Smart Metering)		
Motor Control (Industrial)	PS930X, PS950X	PS9113, PS9313, PS9303, PS9513
Motor Control (Home Appliances)	PS930X, PS9506	PS9113, PS9313, PS9303, PS9513
MW oven		PS9113, PS9313, PS9303, PS9513
Networking (consumer)		
Networking (industrial)		
Color PDP		
P.O.E		
Power Distribution System	PS930X, PS950X	PS9113, PS9313, PS9303, PS9513
Power Supplies		
UPS		PS9113, PS9313, PS9513
Programmable Logic Controller		
Refrigerator		PS9113, PS9313, PS9303
Robot	PS930X, PS950X	PS9113, PS9313, PS9303, PS9513
Security Panels		
Sewing Machine	PS930X, PS950X	PS9113, PS9313, PS9303, PS9513
Power Inverter (Including Solar Applications)	PS930X, PS950X	
Telephone Switching/ Terminals		
Test & Measurement Equipment		
Welding	PS930X, PS950X	PS9313, PS9513

Introduction

Renesas offers a leading portfolio of high performance optocouplers. Key features enabling customers to develop market leading products include 5KV isolation voltage, minimum CMR of 25KV/us and wide package creepage distances.

Dedicated applications support in Europe allows our experienced engineers to oversee complex designs from concept through to mass production.

With in excess of 500 different optocouplers, Renesas is a market leader in many multimarket applications including industrial, consumer, communication and medical.

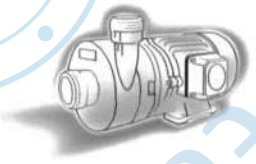
Quality and reliability are fundamental elements for the complete Renesas optocoupler product family. Products comply with international safety regulatory agencies including UL, VDE, CSA, BSI, SEMKO, NEMKO, FIMKO and DEMKO.

Complementary to the optocouplers, Renesas has a long experience in the design and manufacture of high efficiency IGBT's. A broad portfolio is offered for applications such as induction heating, motor control and solar inverters. The IGBT's consist of optimized Vce(sat) for low static losses. Highly robust designs can be achieved due to fast recovery diode. Current ratings from 10A to 90A are available. The designer can take advantage of the optocoupler and IGBT solution from one source, Renesas.

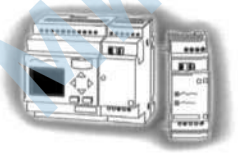
To complement this optocoupler selection guide more detailed technical documentation including a full opto-isolation selector tool can be found at: www.renesas.eu/opto

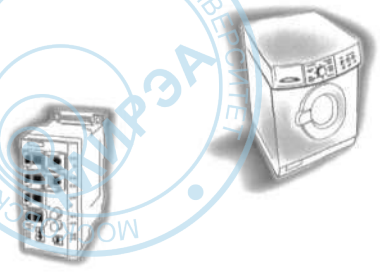
Samples can be obtained using the following email address: Sampleorder_Opto-eu@lm.renesas.com

RoHS compliant



- **Worlds number one for standard optocouplers***
- **High quality and reliability – less than 1 ppm**
- **Large production capacity (>200 Mch/month)**
- **In-house technologies: Bipolar, CMOS and Bi-CMOS**
- **No.1 supplier in SSOP and flat lead packages**
- **World's smallest optocouplers**
- **Think Renesas for optocouplers!**

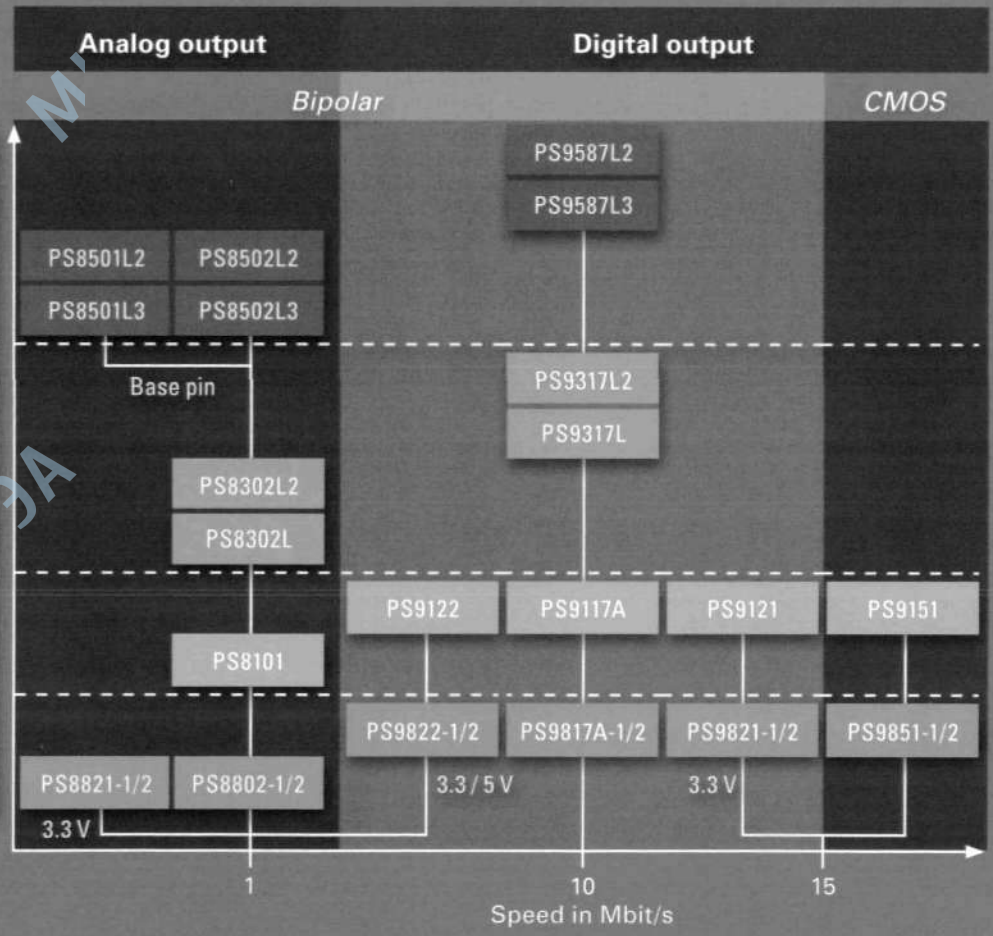




* CY2009 market share, source Renesas

High-speed Optocoupler

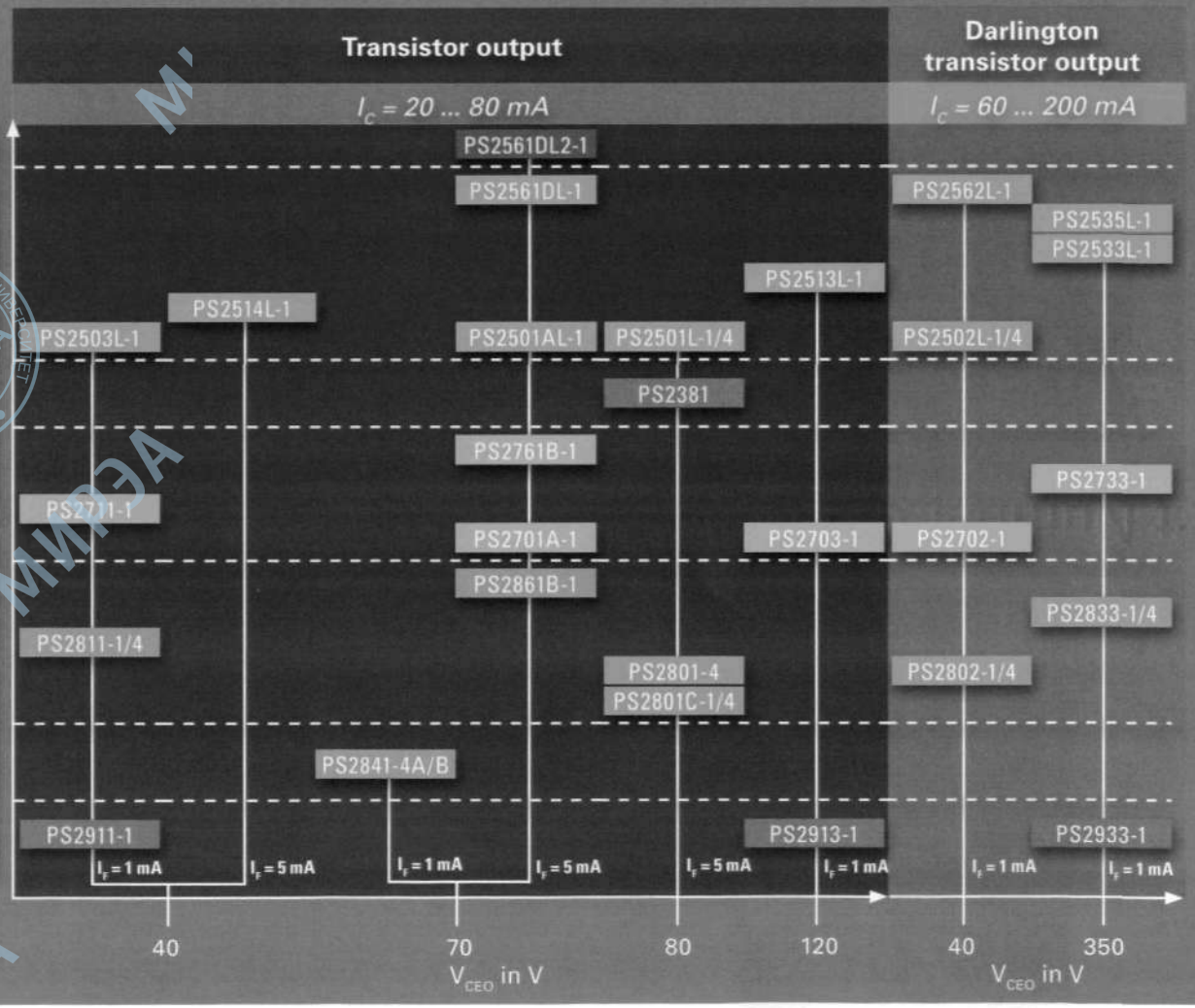
Series	Pin-to-pin distance in mm	Outer creepage/ air distance in mm	Internal isolation thickness in mm	Isolation working voltage in V_{IORM}	Isolation voltage in V_{RMS}
DIP (8-pin)					
PS95xxL2	2.54	8	0.4	1130	5000
PS95xxL3		7			
PS85xxL2		8			
PS85xxL3		7			
SDIP (6-pin)					
PS93xxL2	1.27	8	0.4	1130	5000
PS93xxL		7			
PS83xxL2		8			
PS83xxL		7			
SOP (5-pin)					
PS91xx	1.27	4.2	0.2	707	3750
PS81xx					
SO8 (8-pin)					
PS98xx	1.27	4	0.2	566	2500
PS88xx					



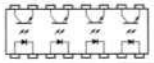
Part Number	Package	Pin Connections	Pin Pitch (mm)	Absolute Maximum Ratings				Electrical Characteristics			Safety Approvals	Other Features
				BV (V r.m.s.)	V_{CC} (V)	I_O (mA/ch)	T_A (°C)	CTR (%)	CM_H, CM_L (kV/µs) MIN.	t_{PHL} / t_{PLH} (µs) MAX.		
1 Mbit/s ANALOG OUTPUT												

Transistor output / DC Input

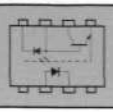
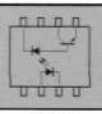
	Series	Pin-to-pin distance in mm	Outer creepage/ air distance in mm	Internal isolation thickness in mm	Isolation voltage in V_{RMS}
DIP	PS2561D	2.54	8	0.4	5000
DIP	PS256x	2.54	7	0.4	5000
	PS253x			0.4	
	PS2513			0.2	
	PS2514			0.3	
	PS250x			0.3	
LSOP	PS2381	2.54	8	0.4	5000
SOP	PS276x	2.54	5	0.4	3750
	PS273x			0.3	
	PS271x			0.3	
	PS270x			0.3	
SSOP	PS286x	1.27	4.5	0.4	3750
	PS283x			0.1	2500
	PS281x			0.1	2500
	PS280x			0.1	2500
Ultra SSOP	PS2841	0.8	4	0.4	1500
Flat lead	PS29xx	1.27	4	0.4	2500

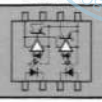


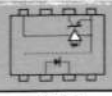
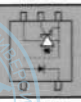
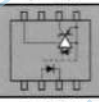
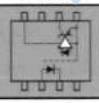
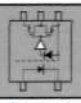
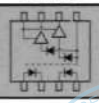
Absolute Maximum Ratings | Electrical Characteristics

Part Number	Package	Pin Connections	Pin Pitch (mm)	BV (Vr.m.s.)	V_{CEO} (V)	I_F (mA)	T_A (°C)	CTR Rank	CTR MIN. (%)	CTR MAX. (%)	CTR I_F (mA)	CTR V_{CE} (V)	t_r, t_f (μs) TYP.	Safety Approvals	Features
PS2501-1 PS2501L-1	4-pin DIP		2.54	5000	80	50	-55 to 100	N	80	600	5	5	3, 5 (R_L = 100 Ω)	UL	—
								H	80	160	5	5			
								M	80	240	5	5			
								Q	100	200	5	5			
								D	100	300	5	5			
								W	130	260	5	5			
								L	200	400	5	5			
								K	300	600	5	5			
PS2501A-1 PS2501AL-1	4-pin DIP		2.54	5000	70	30	-55 to 100	N	50	400	5	5	5, 7 (R_L = 100 Ω)	UL	—
								H	80	160	5	5			
								Q	100	200	5	5			
								W	130	260	5	5			
								L	200	400	5	5			
PS2501-4 PS2501L-4	4-pin DIP		2.54	5000	80	50	-55 to 100	N	80	600	5	5	3, 5 (R_L = 100 Ω)	UL	• 4 channels
PS2503-1 PS2503L-1	4-pin DIP		2.54	5000	40	30	-55 to 100	N	100	400	1	5	20, 30 (R_L = 10 kΩ)	UL, CSA	• Low input current I_F (1mA)
								M	100	200	1	5			
								L	150	300	1	5			
								K	200	400	1	5			
PS2513-1 PS2513L-1	4-pin DIP		2.54	5000	120	30	55 to 100	N	25	100	1	5	5, 25 (R_L = 1.9 kΩ)	UL	• High V_{CEO} (120 V) • Guaranteed maximum switching speed • CTR specified for I_F=1mA and I_F=5mA
								N	50	200	5	5			
PS2514-1 PS2514L-1	4-pin DIP		2.54	5000	40	20	55 to 100	N	50	200	5	5	15, 15 (R_L = 5 kΩ)	UL, VDE (option), CSA	• Guaranteed maximum switching speed
PS2561D-1 PS2561DL-1 PS2561DL1-1 PS2561DL2-1	4-pin DIP		2.54	5000	80	50	-55 to 110	N	50	400	5	5	3, 5 (R_L = 100 Ω)	UL, VDE (option), CSA, BSI, SEMKO, FIMKO, NEMKO, DEMKO	• High operating ambient temperature (110°C) • Insulation thickness: 0.4mm • Wide range of safety standards • CTR specified for I_F=1mA and I_F=5mA • Creepage distance: 8mm (L1/L2)
									10	-	1	5			
								H	80	160	5	5			
									16	-	1	5			
								Q	100	200	5	5			
									20	-	1	5			
								W	130	260	5	5			
									26	-	1	5			
								L	200	400	5	5			
									40	-	1	5			
PS2381-1	4-pin LSOP		2.54	5000	80	50	-40 to 115	N	50	400	5	5	4, 5 (R_L = 100 Ω)*	UL, VDE (option), CSA, SEMKO, CQC	• High operating ambient temperature (115°C) • Insulation thickness: 0.4mm • CTR specified for I_F=1mA and I_F=5mA • Creepage distance: 8mm
									10	-	1	5			
								M	50	150	5	5			
									10	-	1	5			
								W	130	260	5	5			
									20	-	1	5			
								L	100	300	5	5			
									20	-	1	5			
PS2701A-1	SOP		2.54	3750	70	30	-55 to 100	N	50	300	5	5	5, 7 (R_L = 100 Ω)	UL, VDE (option), CSA, BSI, FIMKO	—
								M	50	150	5	5			
								L	100	300	5	5			
								P	150	300	5	5			
PS2703-1	SOP		2.54	3750	120	30	-55 to 100	N	50	400	5	5	10, 10 (R_L = 1 kΩ)	UL, VDE (option), BSI	• High V_{CEO} (120 V) • CTR specified for I_F=1mA and
									10	—	1	5			
								M	50	150	5	5			
									10	—	1	5			
								L	100	300	5	5			

1 Mbit/s, ANALOG OUTPUT

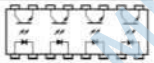
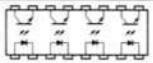
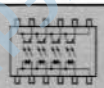
Part Number	Package	Pin Connections	Pin Pitch (mm)	Absolute Maximum Ratings: BV (V r.m.s.)	Absolute Maximum Ratings: V_{CC} (V)	Absolute Maximum Ratings: I_O (mA/ch)	Absolute Maximum Ratings: T_A (°C)	Electrical Characteristics: I_{FHL} (mA) MAX.	Electrical Characteristics: CM_H, CM_L (kV/µs) MIN.	Electrical Characteristics: t_{PHL} / t_{PLH} (ns) MAX.	Electrical Characteristics: $\lvert t_{PHL}-t_{PLH} \rvert$ (ns) MAX.	Safety Approvals	Other Features
PS8501 PS8501L1 PS8501L2 PS8501L3	8-pin DIP		2.54	5000	35	8	-55 to 100	15 or above (I_F = 16 mA, V_{CC} = 4.5 V, V_O = 0.4 V)	—	0.8/0.8 (R_L = 1.9 kΩ)	UL, VDE (option), CSA, BSI, SEMKO, NEMKO, DEMKO, FIMKO	• Base pin • Creepage distance: 8 mm (L1, L2)
PS8502 PS8502L1 PS8502L2 PS8502L3	8-pin DIP		2.54	5000	35	8	-55 to 100	15 or above (I_F = 16 mA, V_{CC} = 4.5 V, V_O = 0.4 V)	15	0.8/0.8 (R_L = 1.9 kΩ)	UL, VDE (option), CSA, BSI, SEMKO, NEMKO, DEMKO, FIMKO	• Creepage distance: 8 mm (L1, L2)
PS8302L PS8302L2	6-pin SDIP		1.27	5000	35	8	-40 to 110	15 or above (I_F = 16 mA, V_{CC} = 4.5 V, V_O = 0.4 V)	15	0.8/0.8 (R_L = 1.9 kΩ)	UL, VDE (option), CSA, BSI	• Half size of 8-pin DIP • Creepage distance: 8 mm (L2) • High operating ambient temperature (110°C)
PS8101	5-pin SOP		1.27	3750	35	8	-55 to 100	15 to 35 (I_F = 16 mA, V_{CC} = 4.5 V, V_O = 0.4 V)	10	0.8/1.2 (R_L = 2.2 kΩ)	UL, VDE (option)	• CTR = 20 to 35% available (K-Rank)
PS8802-1	8-pin SO-8		1.27	2500	35	8	-55 to 100	15 to 45 (I_F = 16 mA, V_{CC} = 4.5 V, V_O = 0.4 V)	15	0.8/1.2 (R_L = 2.2 kΩ)	UL, VDE (option)	—
PS8802-2	8-pin SO-8		1.27	2500	35	8	-55 to 100	15 to 45 (I_F = 16 mA, V_{CC} = 4.5 V, V_O = 0.4 V)	15	0.8/1.2 (R_L = 2.2 kΩ)	UL, VDE (option)	• Dual channel type
PS8821-1	8-pin SO-8		1.27	2500	7	8	-55 to 100	15 to 45 (I_F = 16 mA, V_{CC} = 4.5 V, V_O = 0.4 V)	1 (TYP.)	0.8/1.2 (R_L = 2.2 kΩ)	UL, VDE (option)	• Low power consumption (V_{CC} = 3.3 V)
PS8821-2	8-pin SO-8		1.27	2500	7	8	-55 to 100	15 to 45 (I_F = 16 mA, V_{CC} = 4.5 V, V_O = 0.4 V)	1 (TYP.)	0.8/1.2 (R_L = 2.2 kΩ)	UL, VDE (option)	• Low power consumption (V_{CC} = 3.3 V) • Dual channel type

Part Number	Package	Pin Connections	Pin Pitch (mm)	Absolute Maximum Ratings: BV (V r.m.s.)	Absolute Maximum Ratings: V_{CC} (V)	Absolute Maximum Ratings: I_O (mA/ch)	Absolute Maximum Ratings: T_A (°C)	Electrical Characteristics: I_{FHL} (mA) MAX.	Electrical Characteristics: CM_H, CM_L (kV/µs) MIN.	Electrical Characteristics: t_{PHL} / t_{PLH} (ns) MAX.	Electrical Characteristics: $\lvert t_{PHL}-t_{PLH} \rvert$ (ns) MAX.	Safety Approvals	Other Features
1 Mbit/s, DIGITAL OUTPUT													
PS9122	5-pin SOP		1.27	3750	7	10	-40 to 100	5	—	500/700 (R_L = 350 Ω)	200 (R_L = 350 Ω)	UL, VDE (option)	• V_{CC} = 3.3V / 5V • Open collector output
PS9822-1	8-pin SO-8		1.27	2500	7	25	-40 to 100	5	—	500/700 (R_L = 350 Ω)	200 (R_L = 350 Ω)	UL, VDE (option)	• V_{CC} = 3.3V / 5V • Open collector output
PS9822-2	8-pin SO-8		1.27	2500	7	25	-40 to 100	5	—	500/700 (R_L = 350 Ω)	200 (R_L = 350 Ω)	UL, VDE (option)	• V_{CC} = 3.3V / 5V • Open collector output • Dual channel type
10 Mbit/s, DIGITAL OUTPUT													

PS9587 PS9587L1 PS9587L2 PS9587L3	8-pin DIP		2.54	5000	7	25	-40 to 85	5	15	100/100 (R_L = 350 Ω)	50 (R_L = 350 Ω)	UL, VDE (option), CSA, BSI, SEMKO, NEMKO, DEMKO, FIMKO	• Creepage distance: 8 mm • Open collector output
PS9317L PS9317L2	6-pin SDIP		1.27	5000	7	25	-40 to 85	5	15	100/100 (R_L = 350 Ω)	35 (R_L = 350 Ω)	UL, VDE (option), CSA, BSI	• Half size of 8-pin DIP • Creepage distance: 8 mm • Open collector output
PS9117A	5-pin SOP		1.27	3750	7	25	-40 to 85	5	15	100/100 (R_L = 350 Ω)	35 (R_L = 350 Ω)	UL, VDE (option)	• Open collector output
PS9121	5-pin SOP		1.27	3750	7	25	-40 to 85	5	15	100/100 (R_L = 350 Ω)	35 (R_L = 350 Ω)	UL, VDE (option)	• Low power consumption (V_{CC}=3.3V) • Open collector output
PS9817A-1	8-pin SO-8		1.27	2500	7	25	-40 to 85	5	15	100/100 (R_L = 350 Ω)	35 (R_L = 350 Ω)	UL, VDE (option)	• Open collector output
PS9817A-2	8-pin SO-8		1.27	2500	7	25	-40 to 85	5	15	100/100 (R_L = 350 Ω)	35 (R_L = 350 Ω)	UL, VDE (option)	• Open collector output • Dual channel type
PS9821-1	8-pin SO-8		1.27	2500	7	25	-40 to 85	5	15	100/100 (R_L = 350 Ω)	35 (R_L = 350 Ω)	UL, VDE (option)	• Low power consumption (V_{CC}=3.3V) • Open collector output
PS9821-2	8-pin SO-8		1.27	2500	7	25	-40 to 85	5	15	100/100 (R_L = 350 Ω)	35 (R_L = 350 Ω)	UL, VDE (option)	• Low power consumption (V_{CC}=3.3V) • Open collector output • Dual channel type
15 Mbit/s, CMOS OUTPUT													
PS9151	5-pin SOP		1.27	3750	V_{DD} = 5.5	2	-40 to 100	5	15	60/60	30	UL, VDE (option)	• CMOS output
PS9851-1	8-pin SO-8		1.27	2500	V_{DD} = 5.5	2	-40 to 100	6	10	60/60	30	UL, VDE (option)	• CMOS output
PS9851-2	8-pin SO-8		1.27	2500	V_{DD} = 5.5	2	-40 to 100	6	10	60/60	30	UL, VDE (option)	• CMOS output • Dual channel type

IGBT-/IPM-drive

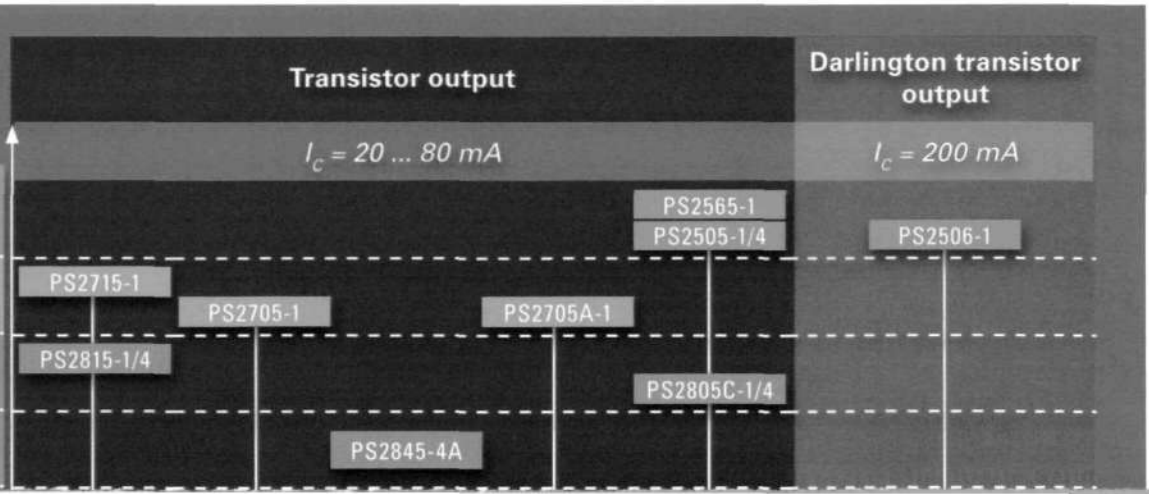
Series	Pin-to-pin distance in mm	Outer creepage/ air distance in mm	Internal isolation thickness in mm	Isolation working voltage in V	Isolation voltage in V_{RMS}	Bipolar	Bi-CMOS

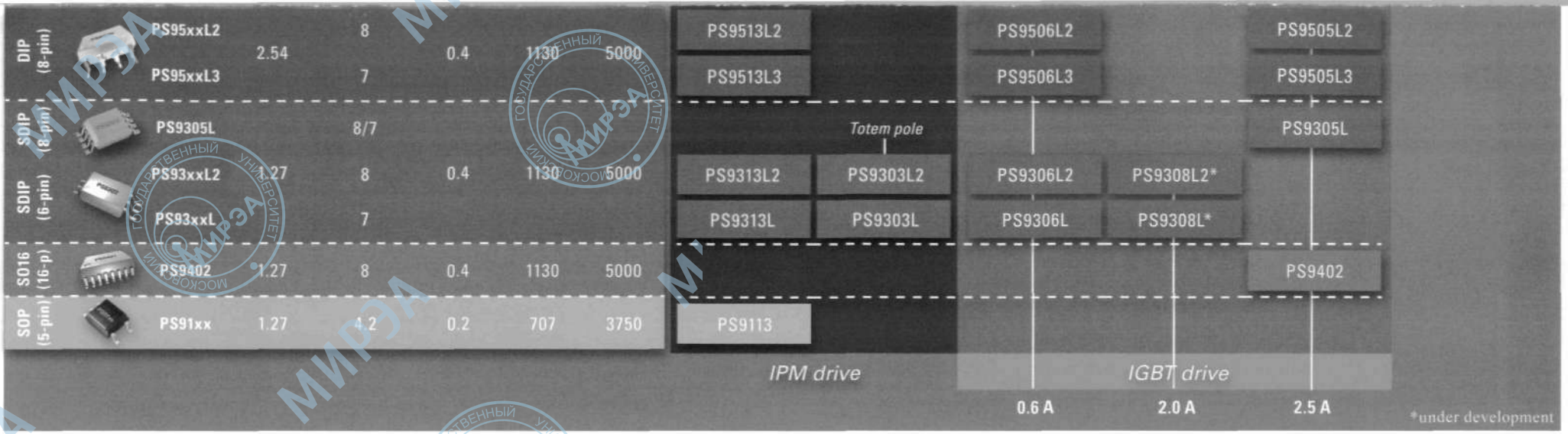
									25	—	1	5			
								K	200	400	5	5			
									80	—	1	5			
PS2711-1	SOP		2.54	3750	40	40	-55 to 100	N	100	400	1	5	4, 5 (R_L = 100 Ω)	UL, VDE (option)	• Low input current I_F (1mA)
								M	100	200	1	5			
								L	150	300	1	5			
								K	200	400	1	5			
PS2761B-1	SOP		2.54	3750	70	40	-55 to 110	N	50	400	5	5	4, 5 (R_L = 100 Ω)	UL, BSI, CSA, VDE (option), SEMKO, FIMKO, NEMKO, DEMKO	• High operating ambient temperature (110°C) • Insulation thickness: 0.4 mm • Wide range of safety standards • CTR specified for I_F = 1mA and 5mA
									10	—	1	5			
								M	50	150	5	5			
									10	—	1	5			
								L	100	300	5	5			
									20	—	1	5			
								K	200	400	5	5			
									40	—	1	5			
PS2801-4	SSOP		1.27	2500	80	50	-55 to 100	N	80	600	5	5	3, 5 (R_L = 100 Ω)	UL, VDE (option), BSI	• 4 channels
PS2801C-1	SSOP		1.27	2500	80	30	-55 to 100	N	50	400	5	5	5, 7 (R_L = 100 Ω)	UL, VDE (option)	—
								L	100	300	5	5			
								P	150	300	5	5			
PS2801C-4	SSOP		1.27	2500	80	30	-55 to 100	N	50	400	5	5	5, 7 (R_L = 100 Ω)	UL, VDE (option)	• 4 channels
PS2811-1	SSOP		1.27	2500	40	40	-55 to 100	N	100	400	1	5	4, 5 (R_L = 100 Ω)	UL, VDE (option)	• Low input current I_F (1mA)
								M	100	200	1	5			
								L	150	300	1	5			
								K	200	400	1	5			
PS2811-4	SSOP		1.27	2500	40	40	-55 to 100	N	100	400	1	5	4, 5 (R_L = 100 Ω)	UL, VDE (option)	• 4 channels • Low input current I_F (1mA)
PS2861B-1	SSOP		1.27	3750	70	50	-55 to 110	N	50	400	5	5	4, 5 (R_L = 100 Ω)	UL, BSI, CSA, VDE (option), SEMKO, FIMKO, NEMKO, DEMKO	• High operating ambient temperature (110°C) • Insulation thickness: 0.4 mm • Wide range of safety standards • CTR specified for I_F = 1mA and 5mA
									10	—	1	5			
PS2841-4A	12-pin SSOP		0.8	1500	70	20	-40 to 100	N	100	400	1	0.4	t_{on}, t_{off} TYP. (µs) 20, 110 (R_L = 5 kΩ)	UL	• 4 channels • Cathode, Collector common • Insulation thickness: 0.4 mm
PS2841-4B	12-pin SSOP		0.8	1500	70	20	-40 to 100	N	100	400	1	0.4	t_{on}, t_{off} TYP. (µs) 20, 110 (R_L = 5 kΩ)	UL	• 4 channels • Anode, Collector common • Insulation thickness: 0.4 mm
PS2911-1	Flat lead SSOP		1.27	2500	40	40	-55 to 100	N	100	400	1	5	5, 10 (R_L = 100 Ω)	UL, VDE (option), BSI	• Low input current I_F (1mA) • Insulation thickness: 0.4 mm
								M	100	200	1	5			
								L	150	300	1	5			
								K	200	400	1	5			
PS2913-1	Flat lead SSOP		1.27	2500	120	30	-55 to 100	N	50	200	1	5	10, 10 (R_L = 100 Ω)	UL, VDE (option), BSI	• Low input current I_F (1mA) • High V_{CEO} (120V) • Insulation thickness: 0.4 mm
								M	50	100	1	5			
								L	75	150	1	5			
								K	100	200	1	5			
DARLINGTON TRANSISTOR OUTPUT - DC INPUT															
PS2502-1 PS2502L-1	DIP		2.54	5000	40	200	-55 to 100	N	200	—	1	2	100, 100 (R_L = 100 Ω)	UL	—
								M	200	1 000	1	2			
								L	700	3 400	1	2			
								K	2 000	—	1	2			
PS2503-1	DIP		2.54	5000	40	150	-55 to 100						100, 100	UL, VDE (option), CSA,	• High V_{CEO} (350 V)

PS2533L-1	DIP		2.54	5000	350	150	-55 to 100	N	1 000	6 500	1	2	(R_L = 100 Ω)	BSI, SEMKO, FIMKO, NEMKO, DEMKO	• High CTR (TYP. 4000%) • Insulation thickness: 0.4 mm
PS2535-1 PS2535L-1	DIP		2.54	5000	350	120	-55 to 100	N	400	5 500	1	2	18, 5 (R_L = 100 Ω)	UL, VDE (option), BSI	• High V_{CEO} (350 V) • Insulation thickness: 0.4 mm
								L	1 500	5 500	1	2			
PS2562-1 PS2562L-1	DIP		2.54	5000	40	200	-55 to 100	N	200	—	1	2	100, 100 (R_L = 100 Ω)	UL, CSA, VDE (option), BSI, SEMKO, FIMKO, NEMKO, DEMKO	• Wide range of safety standards • Insulation thickness: 0.4 mm
								M	200	1 000	1	2			
								L	700	3 400	1	2			
								K	2 000	—	1	2			
PS2702-1	SOP		2.54	3750	40	200	-55 to 100	N	200	—	1	2	200, 200 (R_L = 100 Ω)	UL, VDE (option), BSI	—
								M	200	1 000	1	2			
								L	700	3 400	1	2			
								K	2 000	—	1	2			
PS2733-1	SOP		2.54	2500	350	150	-55 to 100	N	1 500	—	1	2	100, 100 (R_L = 100 Ω)	UL, VDE (option), BSI	• High V_{CEO} (350 V) • High CTR (TYP. 4000%)
PS2802-1	SSOP		1.27	2500	40	90	-55 to 100	N	200	—	1	2	200, 200 (R_L = 100 Ω)	UL, VDE (option), BSI	—
								M	200	1 000	1	2			
								L	700	3 400	1	2			
								K	2 000	—	1	2			
PS2802-4	SSOP		1.27	2500	40	100	-55 to 100	N	200	—	1	2	200, 200 (R_L = 100 Ω)	UL, VDE (option), BSI	• 4 channels
PS2833-1	SSOP		1.27	2500	350	60	-55 to 100	N	400	4 500	1	2	20, 5 (R_L = 100 Ω)	UL	• High V_{CEO} (350 V)
PS2833-4	SSOP		1.27	2500	300	60	-55 to 100	N	400	4 500	1	2	20, 5 (R_L = 100 Ω)	UL	• 4 channels • High V_{CEO} (350 V)
PS2933-1	Flat lead SSOP		1.27	2500	350	60	-55 to 100	N	400	4 500	1	2	20, 5 (R_L = 100 Ω)	UL, VDE (option), BSI	• High V_{CEO} (350 V) • Insulation thickness: 0.4 mm

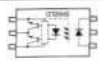
Transistor output / AC Input

	Series	Pin-to-pin distance in mm	Outer creepage/ air distance in mm	Internal isolation thickness in mm	Isolation voltage in V_{RMS}
DIP	PS256x PS250x	2.54	7	0.4 0.3	5000
SOP	PS271x PS270x	2.54	5	0.3	3750
SSOP	PS281x PS280x	1.27	4.5	0.1	2500
Ultra SSOP	PS284x	0.8	4	0.4	1500



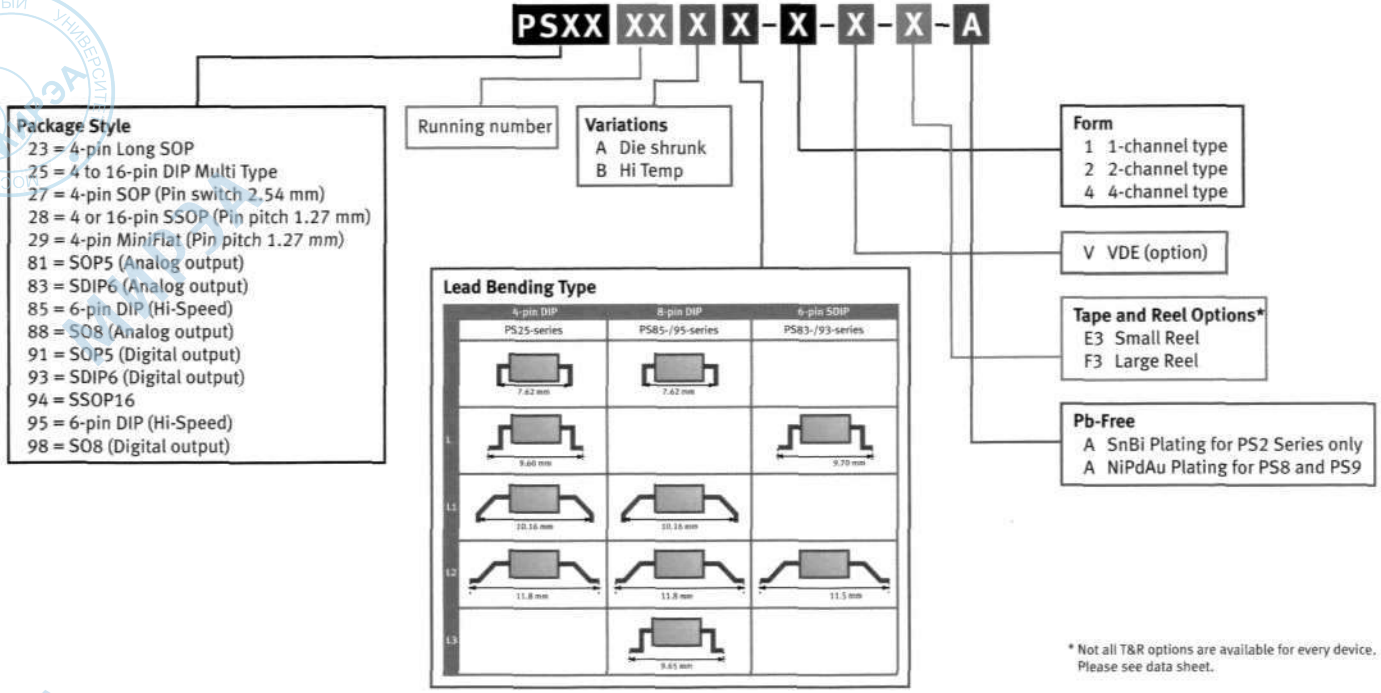


Part Number	Package	Pin Connections	Pin Pitch (mm)	Absolute Maximum Ratings				Electrical Characteristics				Safety Approvals	Other Features
				BV (r.m.s.)	V_{CC} (V)	I_O (mA)	T_A (°C)	I_{FHL} (mA) MAX.	CM_H, CM_L (kV/µs) MIN.	t_{PHL}, t_{PLH} (µs) MAX.	$\lvert t_{PHL}-t_{PLH} \rvert$ (µs) MAX.		
IPM-DRIVE													
PS9513 PS9513L1 PS9513L2 PS9513L3	8-pin DIP		2.54	5000	35	15	-40 to 100	5	15	0.5/0.75 (R_L = 20 kΩ)	0.65 (R_L = 20 kΩ)	UL, VDE (option), CSA, BSI, SEMKO, NEMKO, DEMKO, FIMKO	• Creepage distance: 8 mm (L1/L2)
PS9303L PS9303L2	6-pin SDIP		1.27	5000	25	15	-40 to 110	4	15	0.6/0.6	0.55	UL, VDE (option), CSA	• Half size of 8-pin DIP • Creepaage distance: 8 mm (L2) • Totem pole output
PS9313L PS9313L2	6-pin SDIP		1.27	5000	35	15	-40 to 110	5	15	0.5/0.75 (R_L = 20 kΩ)	0.65 (R_L = 20 kΩ)	UL, VDE (option), CSA, BSI	• Half size of 8-pin DIP • Creepaage distance: 8 mm (L2) • High operating ambient temperature (110°C)
PS9113	5-pin SOP		1.27	3750	35	15	-40 to 100	5	15	0.5/0.75 (R_L = 20 kΩ)	0.65 (R_L = 20 kΩ)	UL, VDE (option), CSA	—
IGBT-DRIVE													
PS9505 PS9505L1 PS9505L2 PS9505L3	8-pin DIP		2.54	5000	35	2.5	-40 to 110	5	25	0.25/0.25 (R_G = 10 Ω)	0.1 (R_G = 10 Ω)	UL, VDE (option), CSA, SEMKO	• Creepage distance: 8 mm (L1/L2) • High output current: 2.0A (MIN.) • UVLO protection
PS9506 PS9506L1 PS9506L2 PS9506L3	8-pin DIP		2.54	5000	35	0.6	-40 to 100	5	25	0.3/0.3 (R_G = 47 Ω)	0.15 (R_G = 47 Ω)	UL, VDE (option), CSA, SEMKO	• Creepage distance: 8 mm (L1/L2) • High output current: 0.4 A (MIN.)
PS9305L	8-pin SDIP		1.27	5000	35	2.5	-40 to 110	5	25	0.25/0.25 (R_G = 10 Ω)	0.1 (R_G = 10 Ω)	UL, VDE (option), CSA, SEMKO	• High output current: 2.0 A (MIN.) • UVLO protection

PS9306L PS9306L2	6-pin SDIP		1.27	5000	35	0.6	-40 to 110	5	25	0.3/0.3 (R_G = 47 Ω)	0.15 (R_G = 47 Ω)	UL, VDE (option), CSA, BSI	• Half size of 8-pin DIP • Creepage distance: 8 mm (L2) • High output current: 0.4 A (MIN.)
PS9402*	16-pin SO-16		1.27	5000	33	2.5	-40 to 110	5	25	0.2/0.2 (R_G = 10 Ω)	0.1 (R_G = 10 Ω)	UL, VDE, CSA (under approval)	• Creepage distance: 8 mm • High output current: 2.0 A (MIN.) • UVLO protection • Desaturation detection • Miller clamping

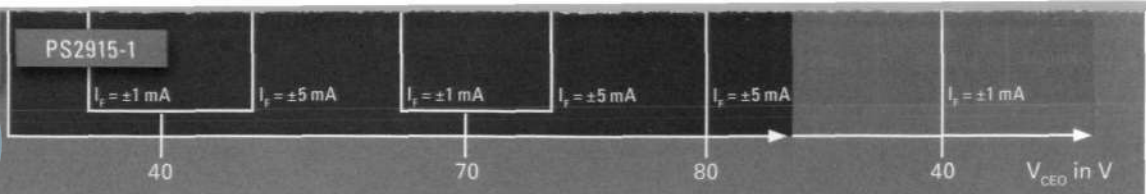
* preliminary information

Part Number Guide



* Not all T&R options are available for every device. Please see data sheet.

Flat lead	PS29xx	1.27	4	0.4	2500	



Part Number	Package	Pin Connections	Pin Pitch (mm)	Absolute Maximum Ratings				Electrical Characteristics						Safety Approvals	Features
				BV (Vr.m.s.)	V_{CEO} (V)	I_C (mA)	T_A (°C)	CTR Rank	CTR MIN. (%)	CTR MAX. (%)	I_F (mA)	V_{CE} (V)	t_r, t_f (µs) TYP.		
PS2505-1 PS2505L-1	DIP		2.54	5000	80	50	-55 to 100	N	80	600	±5	5	3, 5 (R_L = 100 Ω)	UL	—
PS2505-4 PS2505L-4	DIP		2.54	5000	80	50	-55 to 100	N	80	600	±5	5	3, 5 (R_L = 100 Ω)	UL	• 4 channel
PS2565-1 PS2565L-1	DIP		2.54	5000	80	50	-55 to 100	N	80	400	±5	5	3, 5 (R_L = 100 Ω)	UL, CSA, VDE (option), BSI, SEMKO, FIMKO, NEMKO, DEMKO	• Insulation thickness: 0.4 mm • Wide range of safety standards
PS2705-1	SOP		2.54	3750	40	80	-55 to 100	N M L	50 50 100	300 150 300	±5 ±5 ±5	5 5 5	3, 5 (R_L = 100 Ω)	UL, VDE (option), BSI	—
PS2705A-1	SOP		2.54	3750	70	30	-55 to 100	N M L	50 50 100	300 150 300	±5 ±5 ±5	5 5 5	5, 7 (R_L = 100 Ω)	UL, VDE (option), BSI	—
PS2715-1	SOP		2.54	3750	40	40	-55 to 100	N	100	400	±1	5	4, 5 (R_L = 100 Ω)	UL, VDE (option)	• Low input current I_F (±1mA)
PS2805C-1	SSOP		1.27	2500	80	30	-55 to 100	N M	50 100	400 400	±5 ±5	5 5	5, 7 (R_L = 100 Ω)	UL, VDE (option)	—
PS2805C-4	SSOP		1.27	2500	80	30	-55 to 100	N M	50 100	400 400	±5 ±5	5 5	5, 7 (R_L = 100 Ω)	UL, VDE (option)	• 4 channels
PS2815-1	SSOP		1.27	2500	40	40	-55 to 100	N	100	400	±1	5	4, 5 (R_L = 100 Ω)	UL, VDE (option)	• Low input current I_F (±1mA)
PS2815-4	SSOP		1.27	2500	40	40	-55 to 100	N	100	400	±1	5	4, 5 (R_L = 100 Ω)	UL, VDE (option)	• 4 channels • Low input current I_F (±1mA)
PS2845-4A	12-pin SSOP		0.8	1500	70	20	-40 to 100	N	100	400	±1	0.4	7, 10 (R_L = 100 Ω)	UL	• 4 channels • Anode, Cathode, Collector common • Insulation thickness: 0.4 mm
PS2915-1	Flat lead SSOP		1.27	2500	40	40	-55 to 100	N	100	400	±1	5	5, 10 (R_L = 100 Ω)	UL, VDE (option), BSI	• Insulation thickness: 0.4 mm
DARLINGTON TRANSISTOR OUTPUT - AC INPUT															
PS2506-1 PS2506L-1	DIP		2.54	5000	40	200	-55 to 100	N	200	—	±1	2	100, 100 (R_L = 100 Ω)	UL	• High CTR (TYP. 2000%)

Glossary

BV	Isolation Voltage	t_{off}	Turn-off Time
CM_H	Common Mode Transient Immunity at High Level Output	t_{PHL}	Propagation Delay Time (H → L)
CM_L	Common Mode Transient Immunity at Low Level Output	t_{PLH}	Propagation Delay Time (L → H)
CTR	Current Transfer Ratio	$\|t_{PHL} - t_{PLH}\|$	Pulse Width Distortion (PWD)
I_C	Collector Current	V_{CC}	Supply Voltage
I_F	LED forward Current	$V_{CC} - V_{EE}$	Supply Voltage (IGBT-Drive Optocoupler)
I_{FHL}	Threshold Input Current	V_{CE}	Collector to Emitter Voltage
I_O	Output Current per channel	V_{CEO}	Collector to Emitter Voltage
R_L	Load Resistance	V_{DD}	Supply Voltage (CMOS Output Type Optocoupler)
T_A	Operating Ambient Temperature	V_O	Output Voltage
t_d	Delay Time	V_{IORM}	Isolation Working Voltage (with DIN EN60747-5-2 option)
t_r	Rise Time		
t_{on}	Turn-on Time		
t_s	Storage Time		
t_f	Fall Time		

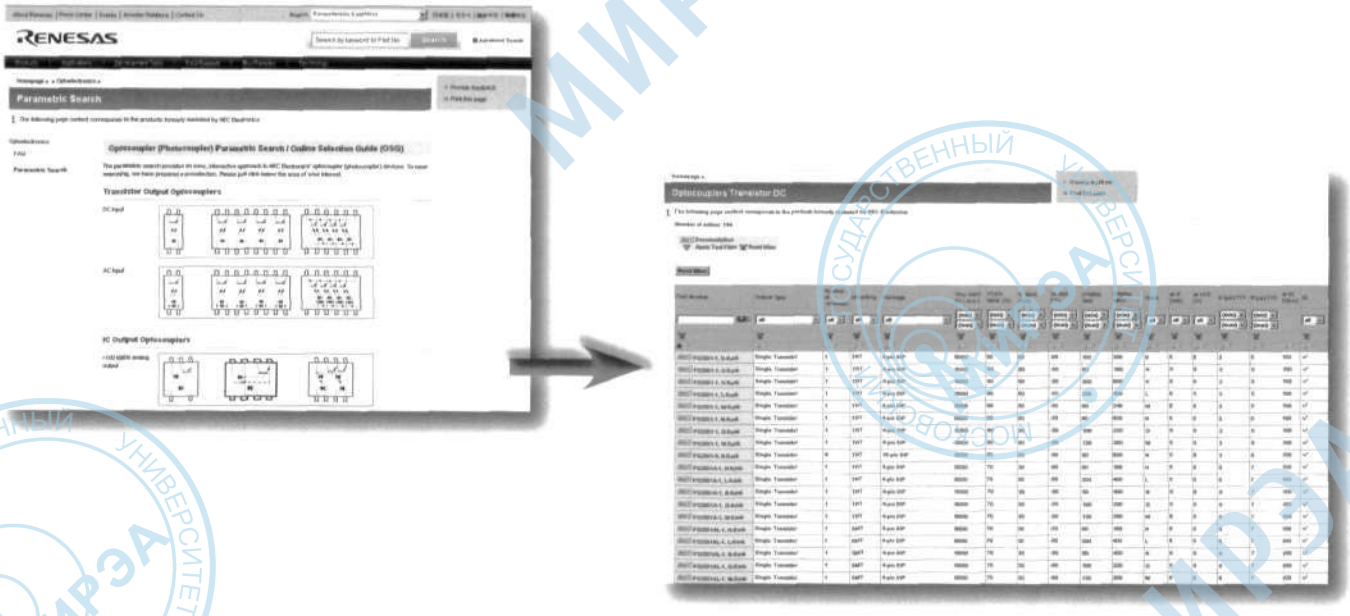
Optocoupler Selection Guide

More information available at: www.renesas.eu/opto

Optocoupler samples: Sampleorder_Opto-eu@lm.resesas.com

Online parametric search

- Providing an easy, interactive approach to optocoupler selection
- Search by Transistor or IC Output couplers
- Selection by key parameters including channel number, CTR, IC



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