

Pb Free Plating Product

## F30U60DN



30Amperes,600Volts Heatsink Common Cathode Ultra Fast Recovery Rectifiers

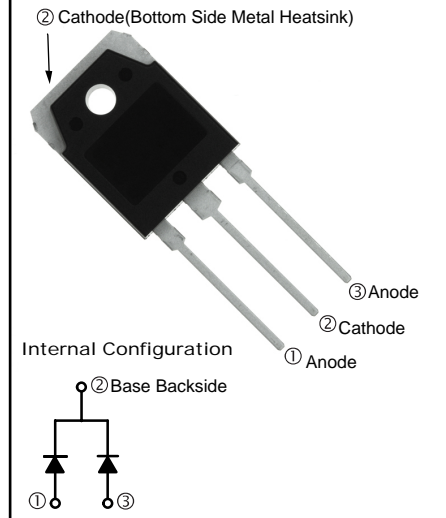
### APPLICATION

- Freewheeling, Snubber, Clamp
- Inversion Welder
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS

### PRODUCT FEATURE

- Ultrafast Recovery Time
- Soft Recovery Characteristics
- Low Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current

### TO-3PB(TO-3PN)



### GENERAL DESCRIPTION

F30U60DN using the latest FRED FAB process(planar passivation chip) with ultrafast and soft recovery characteristic.

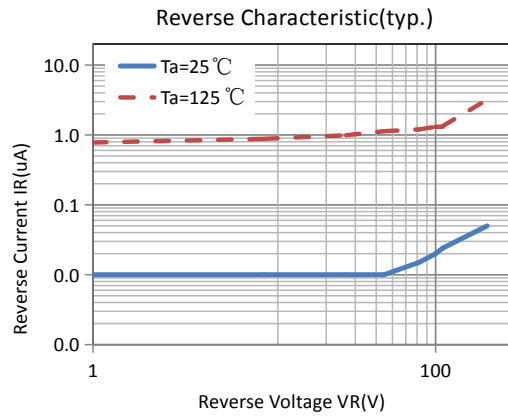
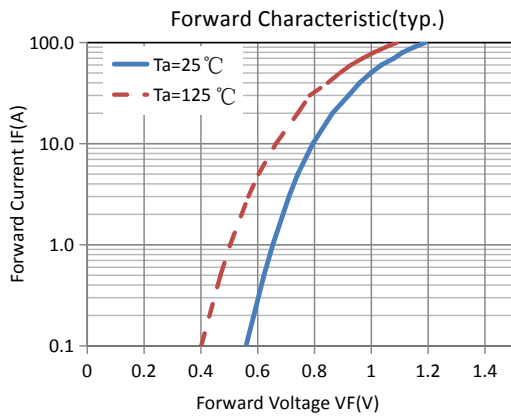
Absolute Maximum Ratings				
Parameter	Symbol	Test Conditions	Values	Units
Repetitive peak reverse voltage	V <sub>RRM</sub>		600	V
Continuous forward current	I <sub>F(AV)</sub>	T <sub>c</sub> =110°C	30	A
Single pulse forward current	I <sub>FSM</sub>	T <sub>c</sub> =25°C	240	
Maximum repetitive forward current	I <sub>FRM</sub>	Square wave, 20kHz	60	
Operating junction	T <sub>j</sub>		175	°C
Storage temperatures	T <sub>stg</sub>		-55 to +175	°C

Electrical characteristics (Ta=25°C unless otherwise specified)						
Parameter	Symbol	Test Conditions	Min	Typ.	Max.	Units
Breakdown voltage Blocking voltage	V <sub>BR</sub> , V <sub>R</sub>	I <sub>R</sub> =100μA	600			V
Forward voltage (Per Diode)	V <sub>F</sub>	I <sub>F</sub> =15A		1.35	1.60	
		I <sub>F</sub> =15A, T <sub>j</sub> =125°C		1.20	1.40	
Reverse leakage current(Per Diode)	I <sub>R</sub>	V <sub>R</sub> = V <sub>RRM</sub>			20	μA
		T <sub>j</sub> =150°C, V <sub>R</sub> =600V			200	
Reverse recovery time(Per Diode)	t <sub>rr</sub>	I <sub>F</sub> =0.5A, I <sub>R</sub> =1A, I <sub>RR</sub> =0.25A		35	45	ns
		I <sub>F</sub> =1A, V <sub>R</sub> =30V, di/dt =200A/us		27	35	

### Thermal characteristics

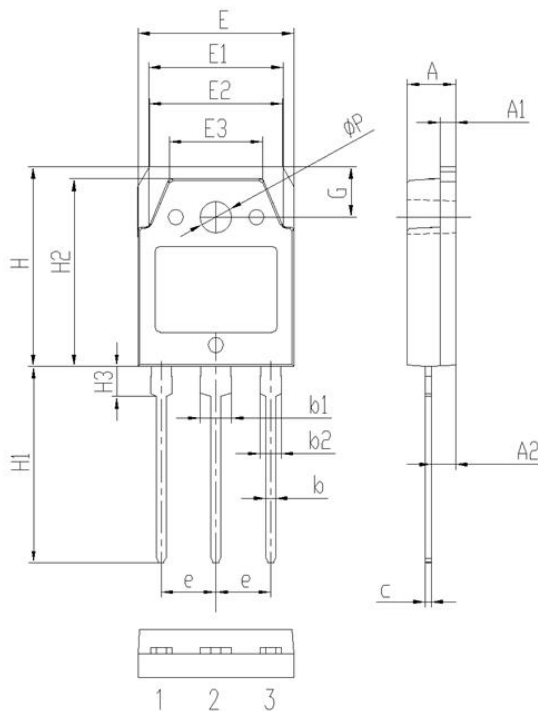
Paramter	Symbol	Typ	Units
Junction-to-Case	R <sub>θJC</sub>	0.8	°C/W

## Electrical performance (typical)



## Package Information

### TO-3PB PACKAGE



Symbol	Dimensions (millimeters)	
	Min.	Max.
A	4.60	5.00
A1	1.30	1.70
A2	2.20	2.60
b	0.80	1.20
b1	2.90	3.30
b2	1.90	2.30
c	0.40	0.80
e	5.25	5.65
E	15.3	15.7
E1	13.2	13.6
E2	13.1	13.5
E3	9.10	9.50
H	19.7	20.1
H1	19.1	20.1
H2	18.3	18.7
H3	2.80	3.20
G	4.80	5.20
ΦP	3.00	3.40