

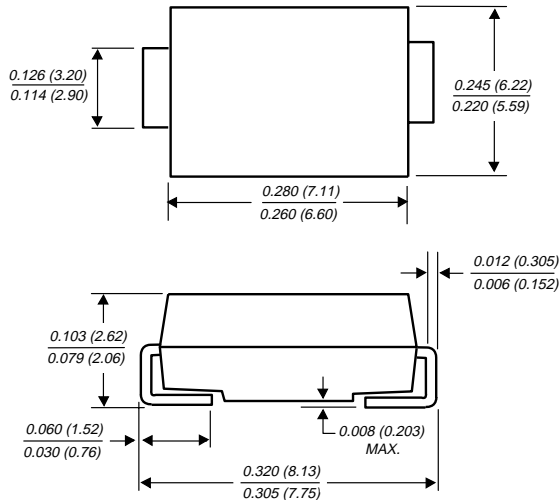
ES3F AND ES3G

SURFACE MOUNT ULTRAFAST EFFICIENT PLASTIC RECTIFIER

Reverse Voltage - 300 to 400 Volts

Forward Current - 3.0 Amperes

DO-214AB



Dimensions in inches and (millimeters)

FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mount applications
- ◆ Low profile package
- ◆ Built-in strain relief
- ◆ Ideal for automated placement
- ◆ Easy pick and place
- ◆ Superfast recovery time for high efficiency
- ◆ Glass passivated chip junction
- ◆ High temperature soldering: 250°C/10 seconds at terminals



MECHANICAL DATA

Case: JEDEC DO-214AB molded plastic body over passivated chip

Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Weight: 0.007 ounces, 0.21 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| | SYMBOLS | ES3F | ES3G | UNITS |
|---|------------------------------------|-------------|------|--------------------|
| Device marking code | | EF | EG | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 300 | 400 | Volts |
| Working peak reverse voltage | V_{RWM} | 225 | 300 | Volts |
| Maximum RMS voltage | V_{RMS} | 210 | 280 | Volts |
| Maximum DC blocking voltage | V_{DC} | 300 | 400 | Volts |
| Maximum average forward rectified current at $T_L=100^\circ\text{C}$ | $I_{(AV)}$ | 3.0 | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_L=100^\circ\text{C}$ | I_{FSM} | 100 | | Amps |
| Maximum instantaneous forward voltage at 3.0A | V_F | 1.10 | | Volts |
| Maximum DC reverse current at working peak reverse voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$ | I_R | 10.0 350 | | μA |
| Maximum reverse recovery time (NOTE 1) | t_{rr} | 35 | | ns |
| Maximum reverse recovery time (NOTE 2) | t_{rr} | 50 | | ns |
| Maximum reverse recovery current (NOTE 2) | I_{RM} | 3.0 | | Amps |
| Maximum stored charge (NOTE 2) | Q_{rr} | 50 | | ns |
| Typical junction capacitance (NOTE 3) | C_J | 30 | | pF |
| Typical thermal resistance (NOTE 4) | $R_{\theta JA}$ $R_{\theta JL}$ | 50 15 | | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range | T_J, T_{STG} | -55 to +150 | | $^\circ\text{C}$ |

NOTES:

- (1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$
- (2) Measured at $I_F=1.0\text{A}$, $di/dt=100\text{A}/\mu\text{s}$, $V_R=30\text{V}$, $I_{rr}=0.1I_{RM}$
- (3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (4) Units mounted on P.C.B. with 0.31 x 0.31" (8.0 x 8.0mm) copper pad areas

NOTICE: Advanced product information is subject to change without notice

RATING AND CHARACTERISTIC CURVES ES3F AND ES3G

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

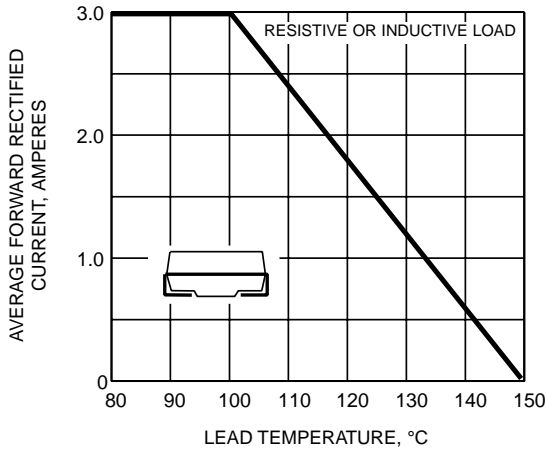


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

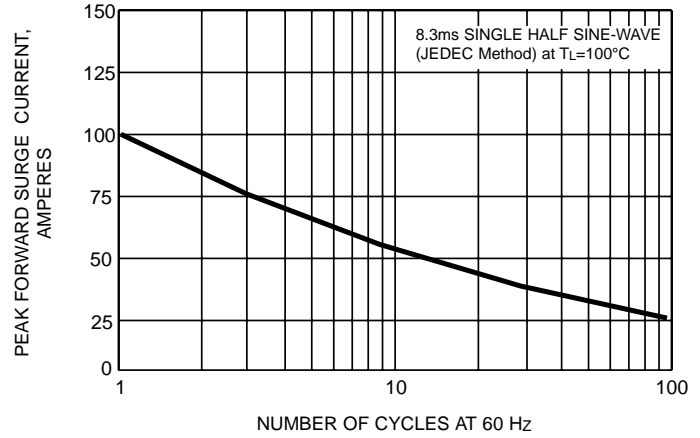


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

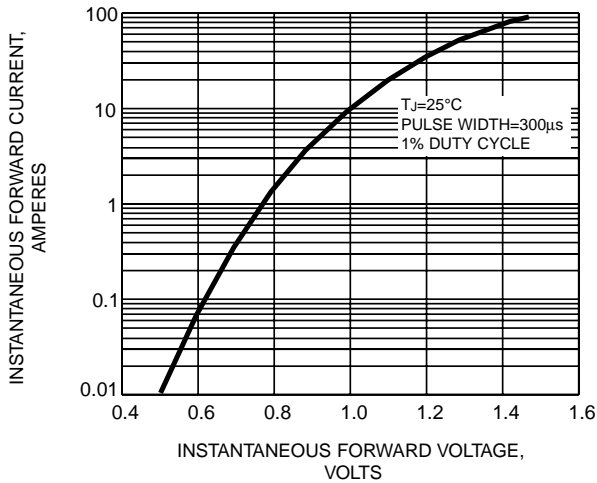


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

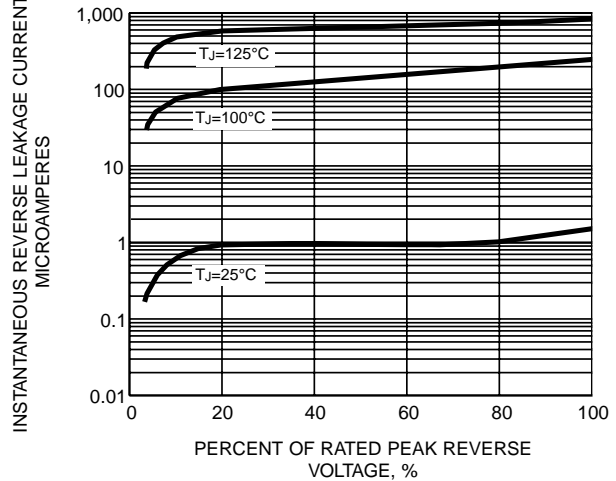


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS

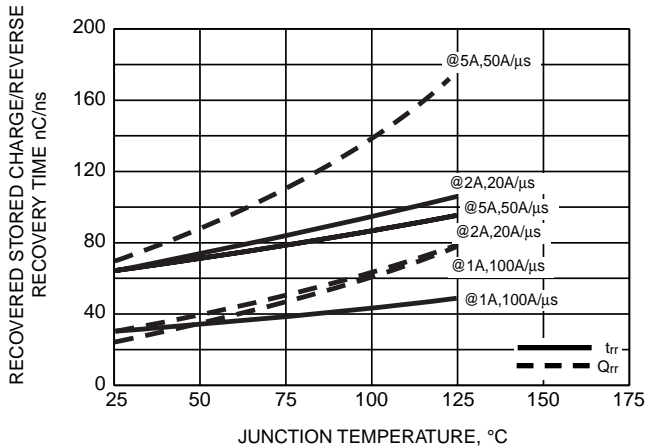


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

