

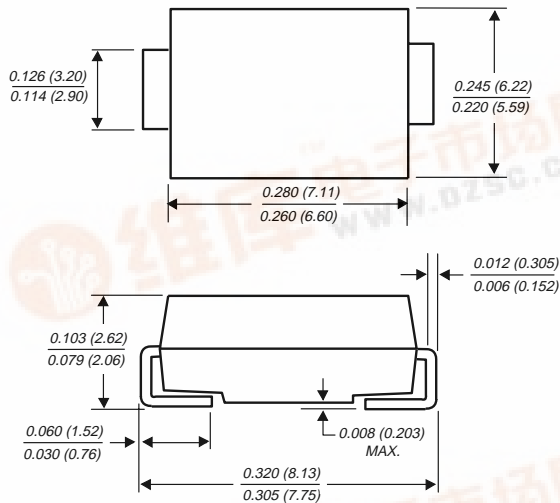
# ES3F AND ES3G

## 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 <sub>RRM</sub>	300	400	Volts
Working peak reverse voltage	V <sub>RWM</sub>	225	300	Volts
Maximum RMS voltage	V <sub>RMS</sub>	210	280	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	300	400	Volts
Maximum average forward rectified current at T <sub>L</sub> =100°C	I <sub>(AV)</sub>	3.0		Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T <sub>L</sub> =100°C	I <sub>FSM</sub>	100		Amps
Maximum instantaneous forward voltage at 3.0A	V <sub>F</sub>	1.10		Volts
Maximum DC reverse current at working peak reverse voltage T <sub>A</sub> =25°C T <sub>A</sub> =100°C	I <sub>R</sub>	10.0 350		μA
Maximum reverse recovery time (NOTE 1)	t <sub>rr</sub>	35		ns
Maximum reverse recovery time (NOTE 2)	t <sub>rr</sub>	50		ns
Maximum reverse recovery current (NOTE 2)	I <sub>RM</sub>	3.0		Amps
Maximum stored charge (NOTE 2)	Q <sub>rr</sub>	50		ns
Typical junction capacitance (NOTE 3)	C <sub>J</sub>	30		pF
Typical thermal resistance (NOTE 4)	R <sub>θJA</sub> R <sub>θJL</sub>	50 15		°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150		°C

#### NOTES:

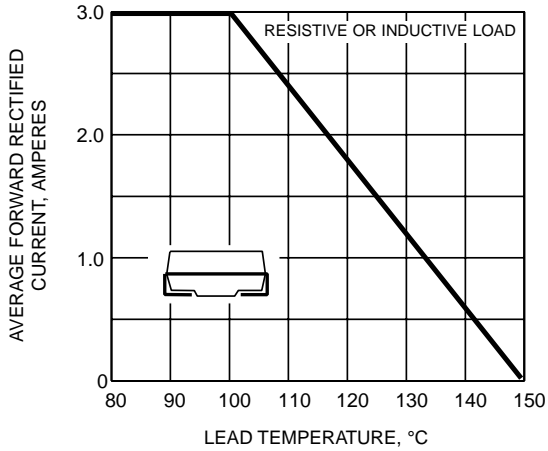
- (1) Reverse recovery test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A
- (2) Measured at I<sub>F</sub>=1.0A, di/dt=100A/μs, V<sub>R</sub>=30V, I<sub>rr</sub>=0.1I<sub>RM</sub>
- (3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (4) Units mounted on P.C.B. with 0.31 x 0.31" (8.0 x 8.0mm) copper pad areas

NOTICE: Advanced product information is subject to change without notice

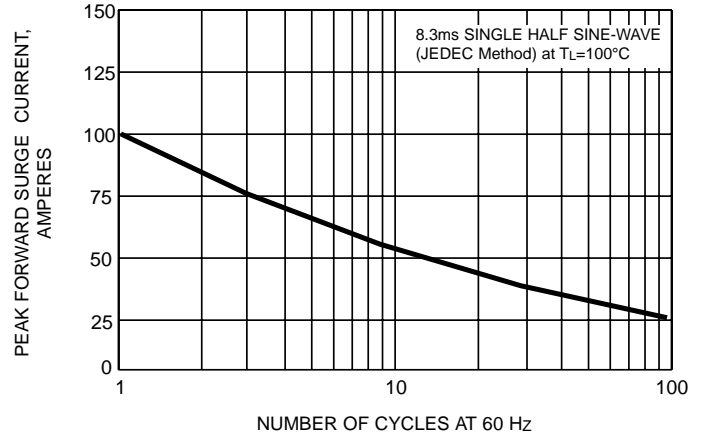


# RATING AND CHARACTERISTIC CURVES ES3F AND ES3G

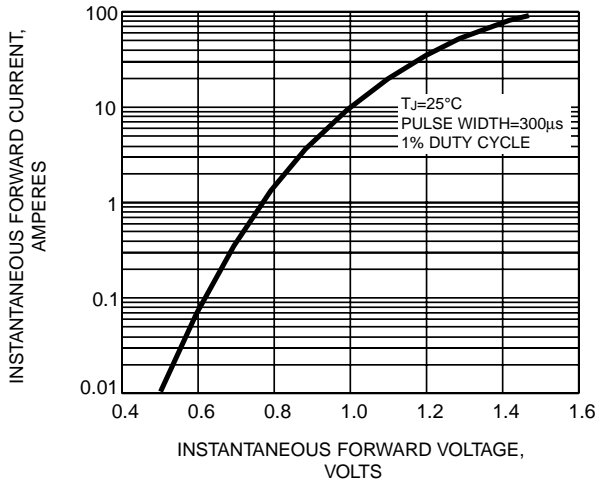
**FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE**



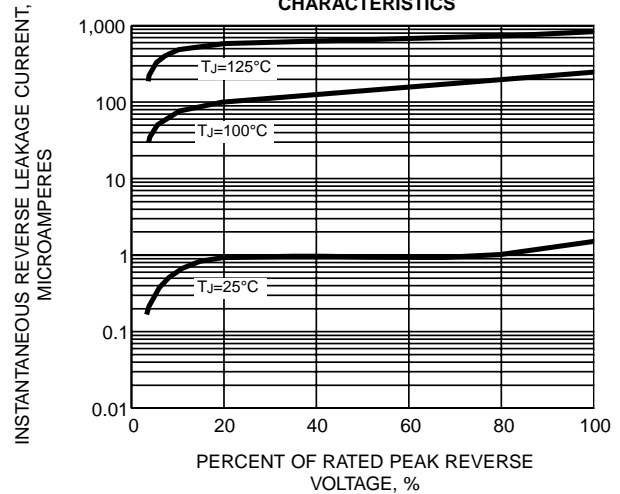
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



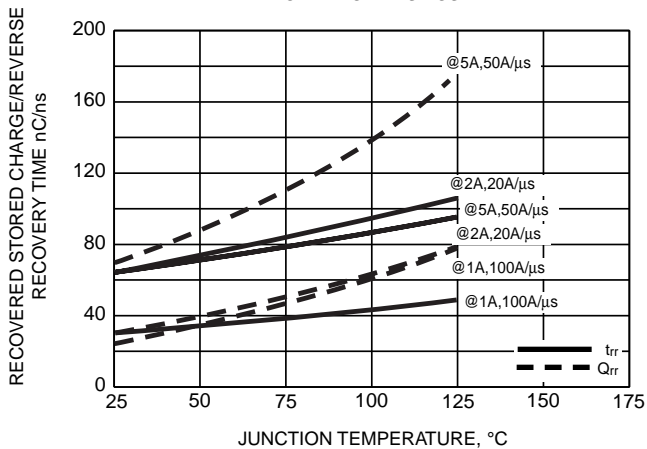
**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 - REVERSE SWITCHING CHARACTERISTICS**



**FIG. 6 - TYPICAL JUNCTION CAPACITANCE**

