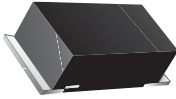




## Surface Mount Ultrafast Plastic Rectifier

Reverse Voltage 50 to 1000V  
Forward Current 3.0A



### Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Ultrafast recovery time for high efficiency
- Excellent high temperature switching
- Glass passivated junction
- High temperature soldering guaranteed: 250°C/10 seconds, at terminals

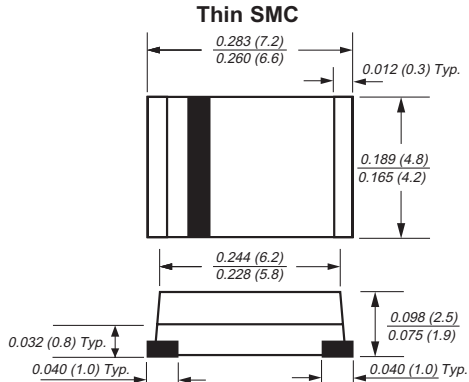
### Mechanical Data

**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 ounce, 0.21 gram



Mounting Pad Layout

Dimensions in inches and (millimeters)

### Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	ES3 AF	ES3 BF	ES3 DF	ES3 GF	ES3 JF	ES3 KF	ES3 MF	Unit
Device marking code		H31	H32	H33	H34	H35	H36	H37	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at T <sub>L</sub> = 55°C	I <sub>F(AV)</sub>				3.0				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T <sub>L</sub> = 110°C	I <sub>FSM</sub>				100				A
Typical thermal resistance <sup>(1)</sup>	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

### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

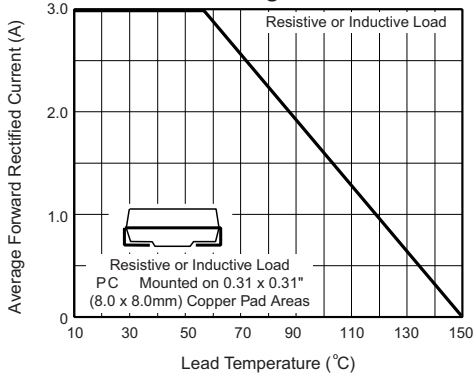
Parameter	Symbol	ES3 AF	ES3 BF	ES3 DF	ES3 GF	ES3 JF	ES3 KF	ES3 MF	Unit
Maximum instantaneous forward voltage at 3.0A	V <sub>F</sub>	1.0		1.3		1.7			V
Maximum DC reverse current at working peak reverse voltage	I <sub>R</sub>				5.0 300				μA
Maximum reverse recovery time at I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1.0A, I <sub>rr</sub> = 0.25A	t <sub>rr</sub>	50					75		ns
Typical junction capacitance at 4.0V, 1MHz	C <sub>J</sub>				70				pF

Note: (1) Units mounted on P.C.B. 5.0 x 5.0mm (0.013mm thick) land areas

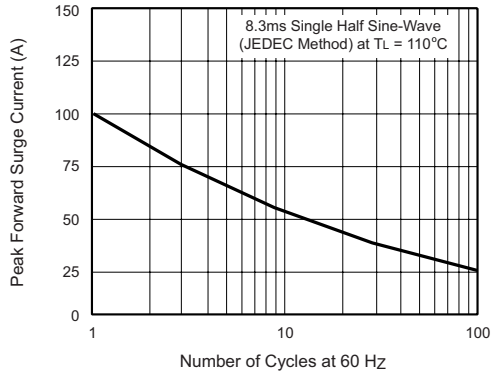


## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

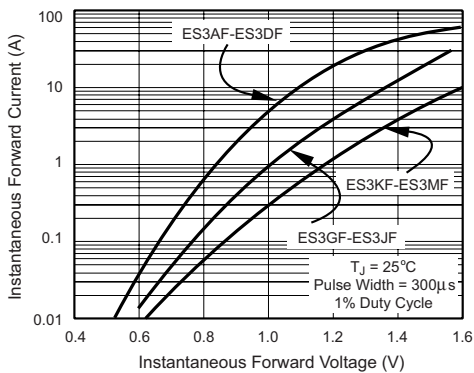
### Fig. 1 - Maximum Forward Current Derating Curve



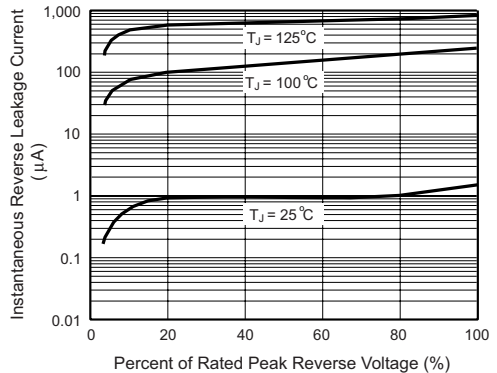
### Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



### Fig. 3 - Typical Instantaneous Forward Characteristics



### Fig. 4 - Typical Reverse Leakage Characteristics



### Fig. 5 - Typical Junction Capacitance

