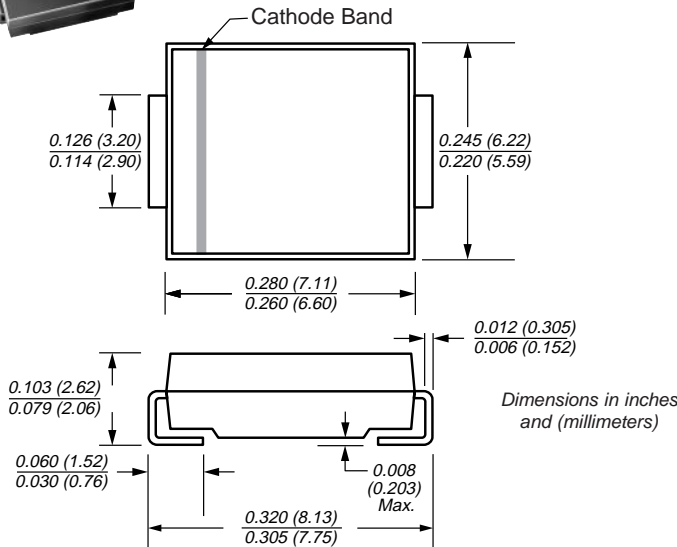




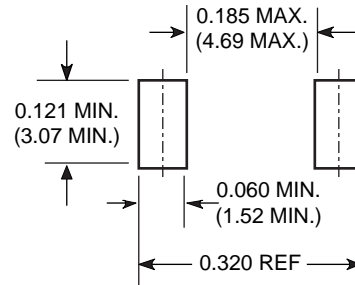
## Surface Mount Ultrafast Plastic Rectifier

DO-214AB (SMC)

Reverse Voltage 300 to 400V  
Forward Current 3.0A  
Reverse Recovery Time 35ns



### Mounting Pad Layout



### 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

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

Parameter	Symbol	ES3F	ES3G	Unit
Device marking code		EF	EG	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	300	400	V
Working peak reverse voltage	V <sub>RWM</sub>	225	300	V
Maximum RMS voltage	V <sub>RMS</sub>	210	280	V
Maximum DC blocking voltage	V <sub>DC</sub>	300	400	V
Maximum average forward rectified current at T <sub>L</sub> = 110°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

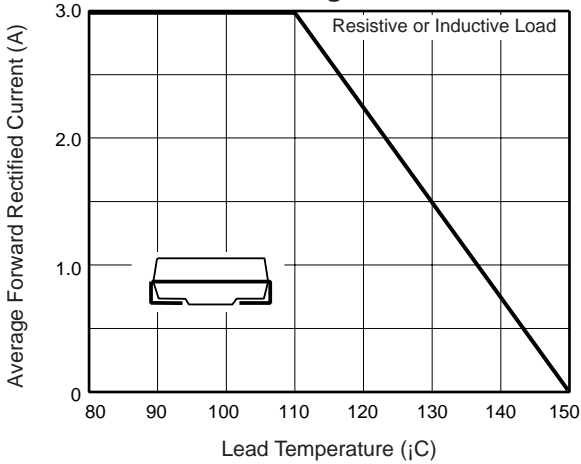
### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	ES3F	ES3G	Unit
Maximum instantaneous forward voltage at 3.0A	V <sub>F</sub>	1.1		V
Maximum DC reverse current at working peak reverse voltage	I <sub>R</sub>	10 350		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>	35		ns
Maximum reverse recovery time I <sub>F</sub> =1.0A, di/dt=100A/μs, V <sub>R</sub> =30V, I <sub>rr</sub> =0.1I <sub>RM</sub>	t <sub>rr</sub>	50		ns
Maximum reverse recovery current I <sub>F</sub> =1.0A, di/dt=100A/μs, V <sub>R</sub> =30V, I <sub>rr</sub> =0.1I <sub>RM</sub>	I <sub>RM</sub>	3.0		A
Maximum stored charge I <sub>F</sub> = 1.0A, di/dt = 100A/μs, V <sub>R</sub> = 30V, I <sub>rr</sub> = 0.1I <sub>RM</sub>	Q <sub>rr</sub>	50		nC
Typical junction capacitance at 4.0V, 1MHz	C <sub>J</sub>	30		pF

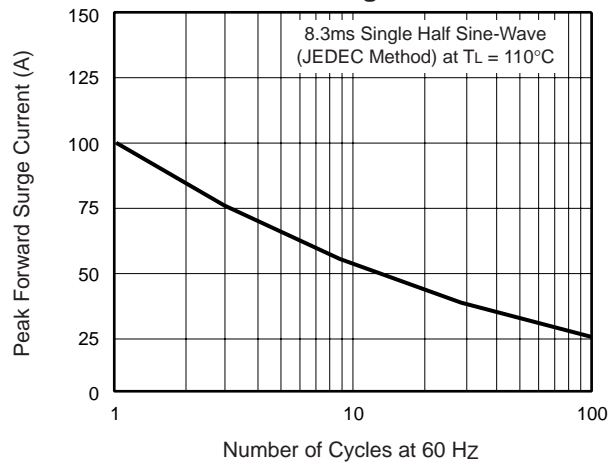
**Note:** (1) Units mounted on P.C.B. 5.0 x 5.0mm (0.013mm thick) land areas

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

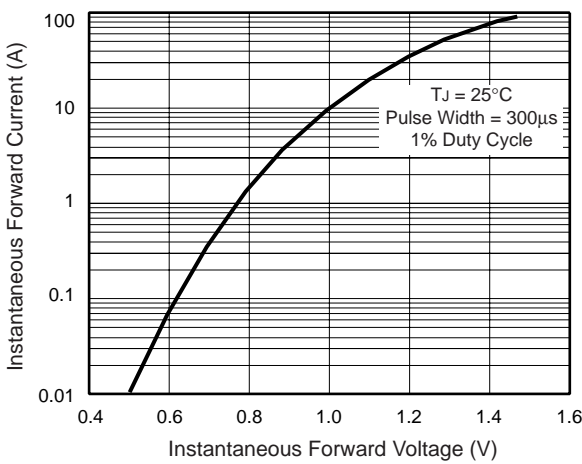
**Fig. 1 – Maximum Forward Current Derating Curve**



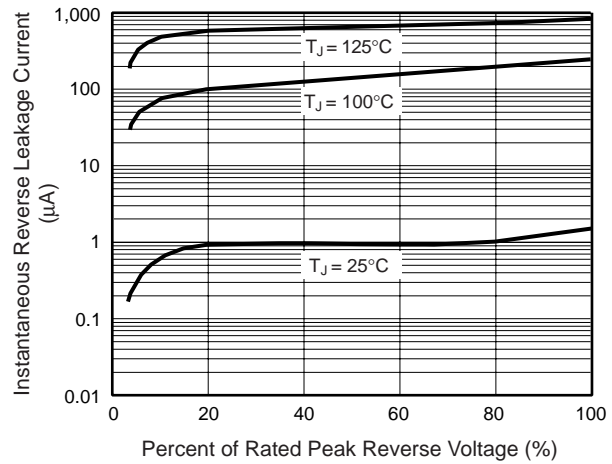
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



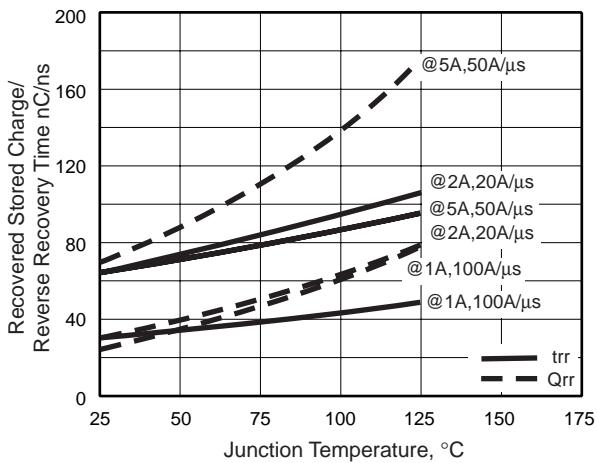
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Leakage Characteristics**



**Fig. 5 - Reverse Switching Characteristics**



**Fig. 6 - Typical Junction Capacitance**

