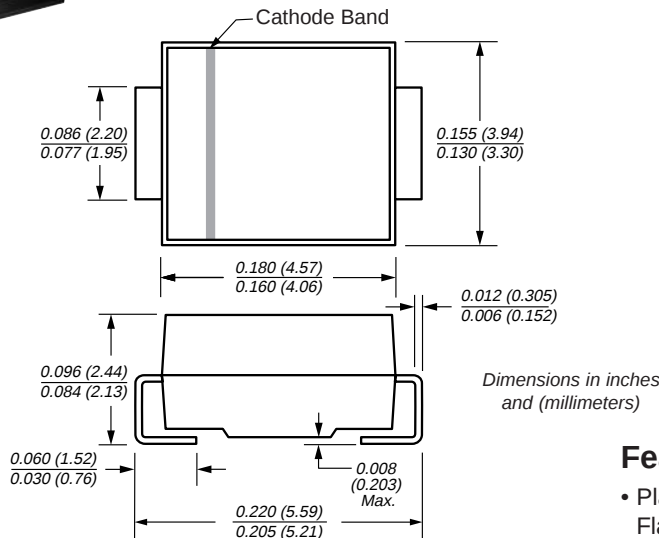


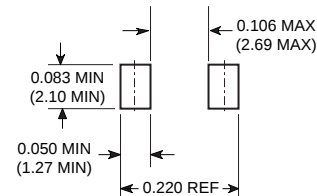


Surface Mount Ultrafast Plastic Rectifier

DO-214AA (SMB)

Reverse Voltage 300 to 400 V
Forward Current 2.0 A
Reverse Recovery Time 35 ns

Mounting Pad Layout



Mechanical Data

Case: JEDEC DO-214AA molded plastic body**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026**Polarity:** Color band denotes cathode end**Weight:** 0.003 oz., 0.093 g

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

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

Parameter	Symbol	ES2F	ES2G	Unit
Device marking code		EF	EG	
Maximum repetitive peak reverse voltage	V_{RRM}	300	400	V
Working peak reverse voltage	V_{RWM}	225	300	V
Maximum RMS voltage	V_{RMS}	210	280	V
Maximum DC blocking voltage	V_{DC}	300	400	V
Maximum average forward rectified current at $T_L=110^\circ\text{C}$	$I_{F(AV)}$	2.0		A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_L=110^\circ\text{C}$	I_{FSM}	50		A
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$	75 25		$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150		$^\circ\text{C}$

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

Maximum instantaneous forward voltage at 2.0A ⁽²⁾	V_F	1.1	V
Maximum DC reverse current $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	I_R	10 200	μA
Maximum reverse recovery time at $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$	t_{rr}	35	ns
Maximum reverse recovery time at $I_F=1.0\text{A}$, $di/dt=100\text{A}/\mu\text{s}$, $V_R=30\text{V}$, $I_{rr}=0.1I_{RM}$	t_{rr}	50	ns
Maximum reverse recovery current at $I_F=1.0\text{A}$, $di/dt=100\text{A}/\mu\text{s}$, $V_R=30\text{V}$, $I_{rr}=0.1I_{RM}$	I_{RM}	3.0	A
Maximum stored charge at $I_F=1.0\text{A}$, $di/dt=100\text{A}/\mu\text{s}$, $V_R=30\text{V}$, $I_{rr}=0.1I_{RM}$	Q_{rr}	50	nC
Typical junction capacitance at 4.0V, 1MHz	C_J	15	pF

Note: (1) Units mounted on P.C.B. 5.0 x 5.0mm (0.013mm thick) land areas(2) Pulse test: 300 μs pulse width, 1% duty cycle

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

Fig. 1 – Maximum Forward Current Derating Curve

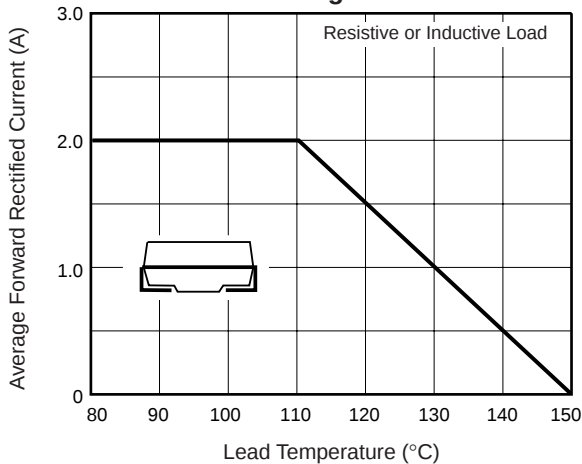


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

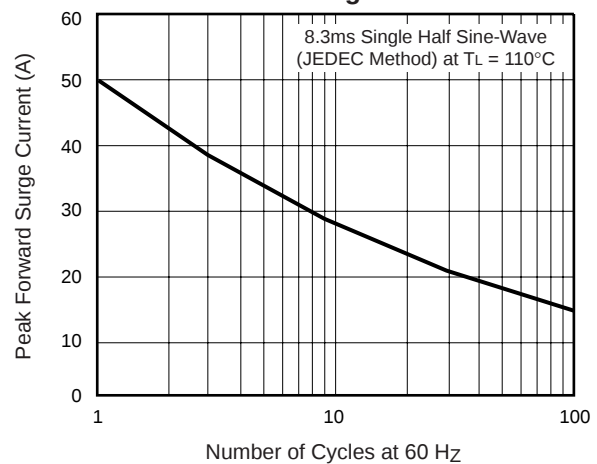


Fig. 3 – Typical Instantaneous Forward Characteristics

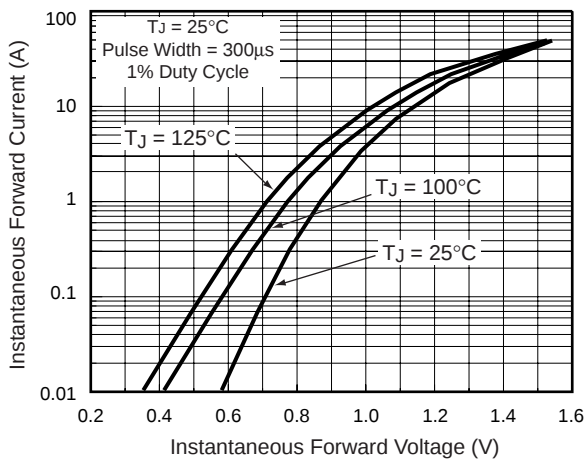


Fig. 4 – Typical Reverse Leakage Characteristics

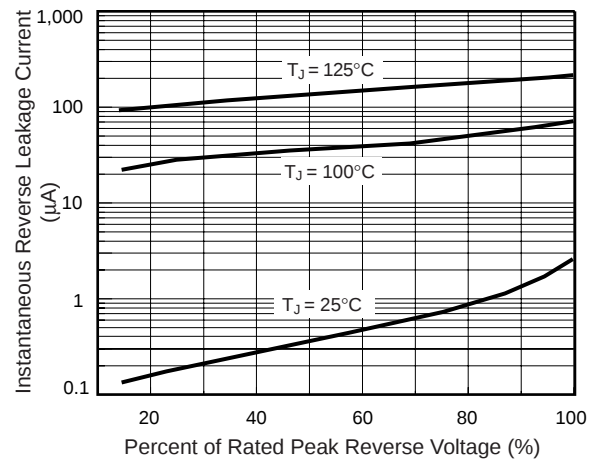


Fig. 5 - Reverse Switching Characteristics

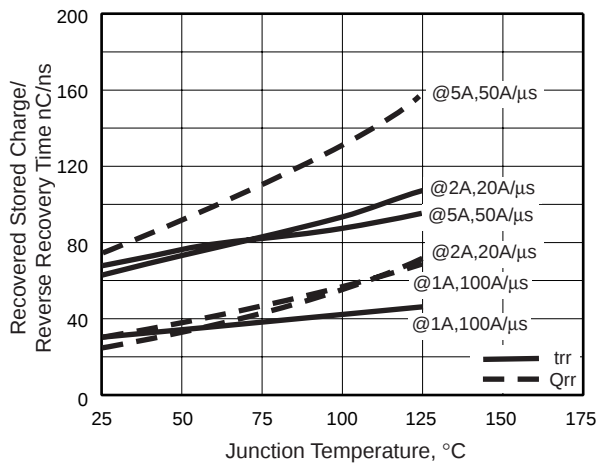


Fig. 6 - Typical Junction Capacitance

