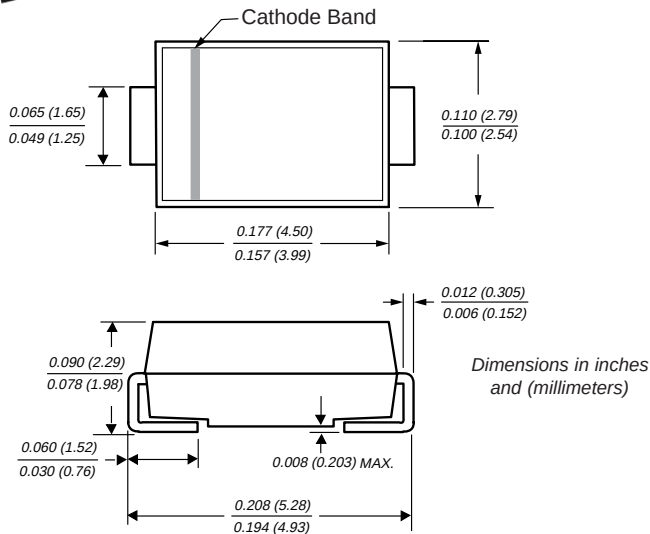


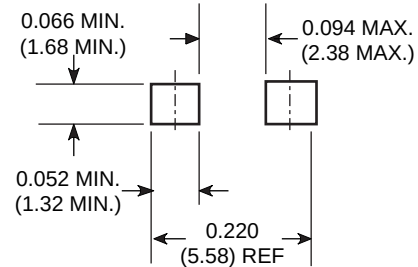


Surface Mount Ultrafast Plastic Rectifiers

DO-214AC (SMA)

Reverse Voltage 50 to 200 V
Forward Current 1.0 A
Reverse Recovery Time 15 ns

Mounting Pad Layout



Mechanical Data

Case: JEDEC DO-214AC molded plastic body over passivated chip**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026**Polarity:** Color band denotes cathode end**Weight:** 0.002 oz., 0.064 g

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- For surface mount applications
- Glass passivated chip junctions
- Low profile package
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power loss
- Built-in strain relief, ideal for automated placement
- High temperature soldering guaranteed: 250°C/10 seconds on terminals

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

Parameter	Symbol	ES1A	ES1B	ES1C	ES1D	Unit
Device marking code		EA	EB	EC	ED	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	V
Maximum average forward rectified current at $T_L = 120^\circ\text{C}$	$I_{F(AV)}$	1.0				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30				A
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$	85 35				°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150				°C

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

Maximum instantaneous forward voltage at 0.6A ⁽²⁾ at 1.0A	V_F	0.865 0.920	V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	5.0 100	μA
Max. reverse recovery time $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$	t_{rr}	15	ns
Maximum reverse recovery time $T_J=25^\circ\text{C}$ $I_F = 0.6\text{A}$, $V_R = 30\text{V}$, $di/dt = 50\text{A}/\mu\text{s}$, $I_{rr} = 10\%$ I_{RM} $T_J=100^\circ\text{C}$	t_{rr}	25 35	ns
Maximum stored charge $T_J=25^\circ\text{C}$ $T_A=25^\circ\text{C}$ $I_F = 0.6\text{A}$, $V_R = 30\text{V}$, $di/dt = 50\text{A}/\mu\text{s}$, $I_{rr} = 10\%$ I_{RM} $T_A=100^\circ\text{C}$	Q_{rr}	10 25	nC
Typical junction capacitance at 4.0V, 1MHz	C_J	7.0	pF

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

(2) Pulse test: 300μs 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

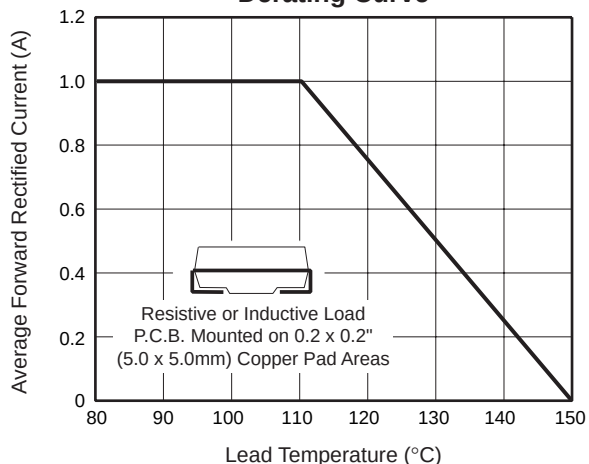


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

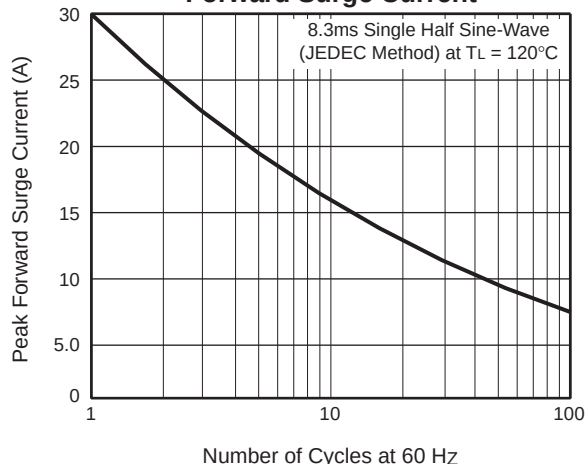


Fig. 3 – Typical Instantaneous Forward Characteristics

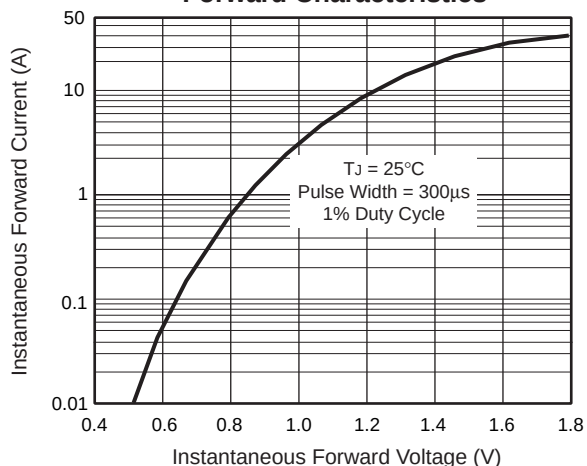


Fig. 4 – Typical Reverse Leakage Characteristics

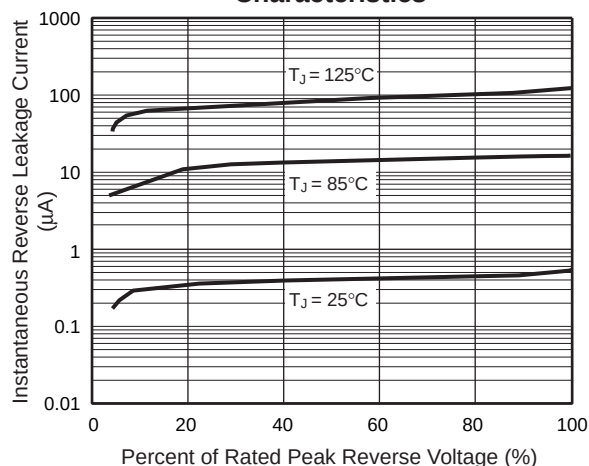


Fig. 5 – Typical Junction Capacitance

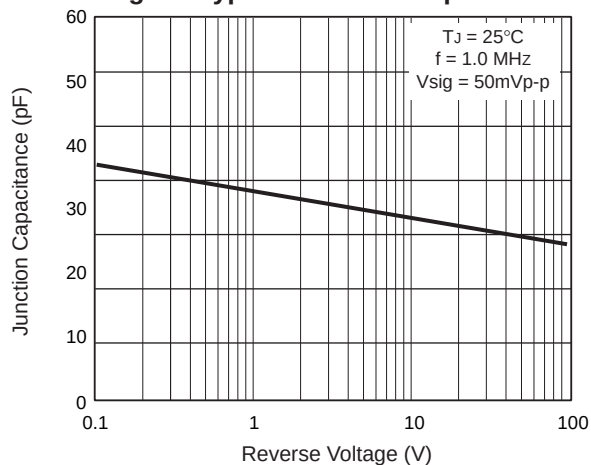


Fig. 6 – Typical Thermal Impedance

