



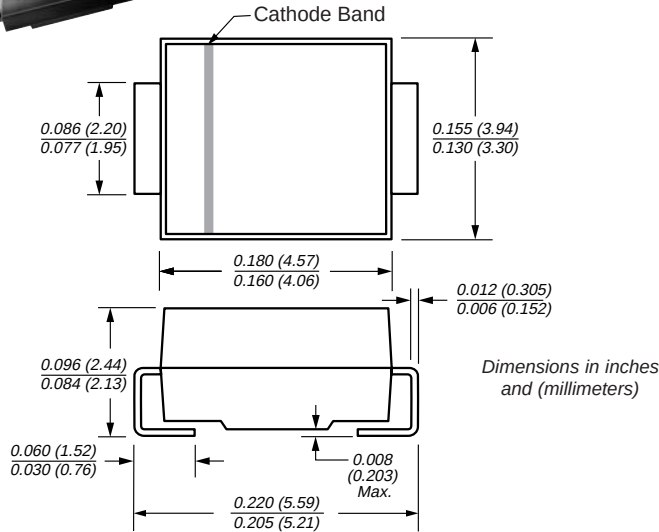
Ultrafast Plastic Rectifier

DO-214AA (SMB)

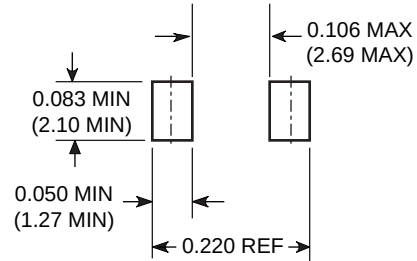
Reverse Voltage 400 to 600V

Forward Current 1.0A

Reverse Recovery Time 50ns



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
- For surface mount applications • Glass passivated junction
- High temperature soldering guaranteed: 250°C/10 seconds on terminals

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**Packaging Codes/Options:**

5/3.2K per 13" reel (12mm tape)

2/750 EA per 7" reel (12mm tape)

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

Parameter	Symbol	MURS140	MURS160	Unit
Device Marking Codes		MG	MJ	
Maximum repetitive peak reverse voltage	V_{RRM}	400	600	V
Working peak reverse voltage	V_{RWM}	400	600	V
Maximum DC blocking voltage	V_{DC}	400	600	V
Maximum average forward rectified current at $T_L = 150^\circ\text{C}$ See figure 1 $T_L = 125^\circ\text{C}$	$I_{F(AV)}$	1.0 2.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	35		A
Typical thermal resistance junction to ambient	$R_{\theta JL}$	13		$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175°C		$^\circ\text{C}$

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

Maximum instantaneous forward voltage (Note 1)	at $I_F = 1.0\text{A}, T_J = 25^\circ\text{C}$ at $I_F = 1.0\text{A}, T_J = 150^\circ\text{C}$	V_F	1.25 1.05	V
Maximum instantaneous reverse current at rated DC blocking voltage (Note 1)	$T_J = 25^\circ\text{C}$ $T_J = 150^\circ\text{C}$	I_R	5.0 150	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}	50	ns
Maximum reverse recovery time at, $I_F = 1.0\text{A}, di/dt = 50\text{A}/\mu\text{s}, V_R = 30\text{V}, I_{rr} = 10\% I_{RM}$		t_{rr}	75	ns
Maximum forward recovery time at $I_F = 1.0\text{A}, di/dt = 100\text{A}/\mu\text{s}$, recovery to 1.0V		t_{fr}	50	ns

Notes: (1) Pulse test: $t_p = 300\mu\text{s}$, duty cycle $\leq 2\%$

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

Fig. 1 – Forward Current Derating Curve

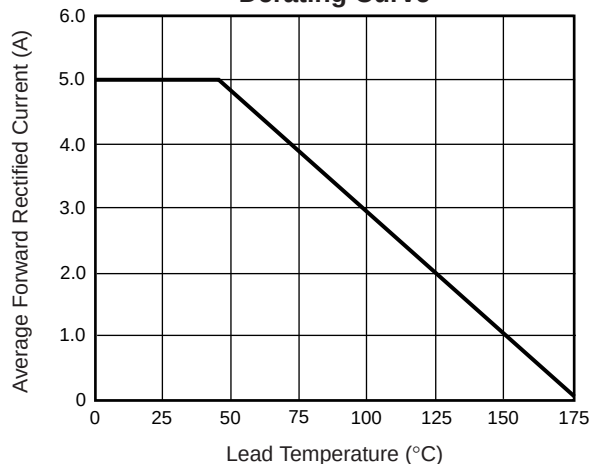


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

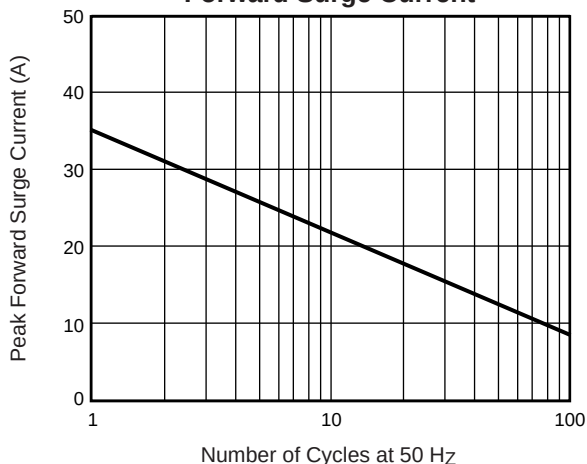


Fig. 3 – Typical Instantaneous Forward Characteristics

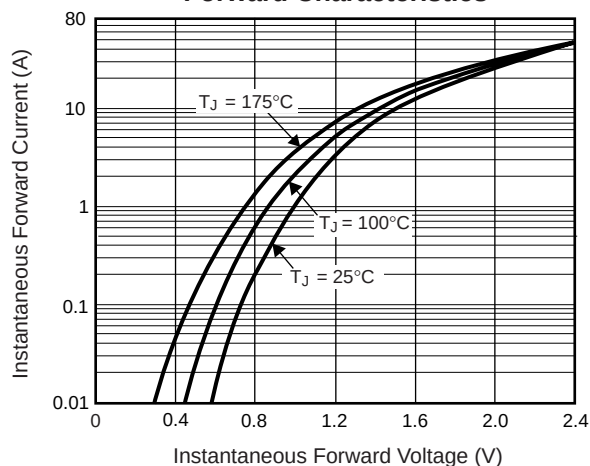


Fig. 4 – Typical Reverse Leakage Characteristics

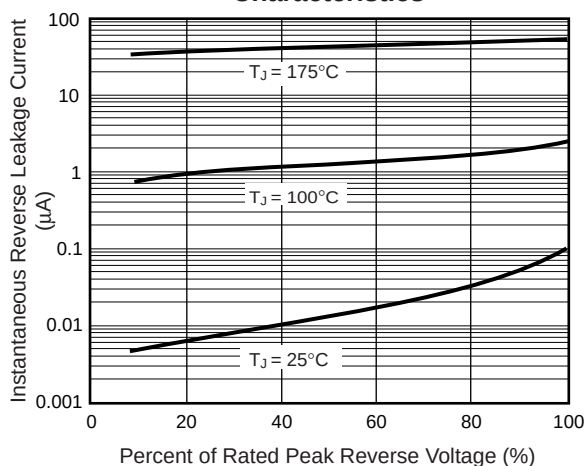


Fig. 5 – Typical Junction Capacitance

