

Surface Mount Ultrafast Plastic Rectifier



DO-214AB (SMC)

FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low switching losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020C, LF max peak of 260 °C
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



TYPICAL APPLICATIONS

For use in high frequency rectification and free-wheeling application in switching mode converters and inverters for consumer, computer, automotive and telecommunication.

MECHANICAL DATA

Case: DO-214AB (SMC)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Color band denotes cathode end

MAJOR RATINGS AND CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
V_{RRM}	400 V, 600 V
I_{FSM}	125 A
t_{rr}	50 ns
V_F	1.05 V
$T_j \text{ max.}$	175 °C

MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted)				
PARAMETER	SYMBOL	MURS340	MURS360	UNIT
Device marking code		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: (see Fig. 1) $T_L = 130\text{ °C}$ $T_L = 115\text{ °C}$	$I_{F(AV)}$	3.0 4.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	125		A
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175		°C

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)					
PARAMETER	TEST CONDITIONS	SYMBOL	MURS340	MURS360	UNIT
Maximum instantaneous forward voltage ⁽¹⁾	$I_F = 3.0\text{ A}, T_J = 25\text{ }^{\circ}\text{C}$ $I_F = 4.0\text{ A}, T_J = 25\text{ }^{\circ}\text{C}$ $I_F = 3.0\text{ A}, T_J = 150\text{ }^{\circ}\text{C}$	V_F	1.25 1.28 1.05		V
Maximum instantaneous reverse current at rated DC blocking voltage ⁽¹⁾	$T_J = 25\text{ }^{\circ}\text{C}$ $T_J = 150\text{ }^{\circ}\text{C}$	I_R	10 250		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	$I_F = 1.0\text{ A}, di/dt = 100\text{ A}/\mu\text{s}, \text{Rec. to } 1.0\text{ V}$	t_{fr}	25		ns

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

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	MURS340	MURS360	UNIT
Typical thermal resistance junction to ambient	$R_{\theta JL}$	11		$^{\circ}\text{C}/\text{W}$

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
MURS340-E3/57T	0.211	57T	850	7" Diameter Plastic Tape & Reel
MURS340-E3/9AT	0.211	9AT	3200	13" Diameter Plastic Tape & Reel

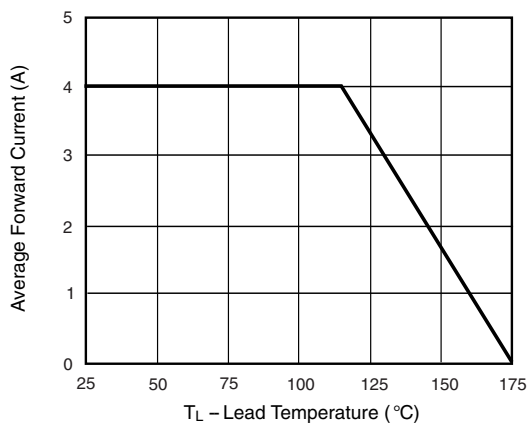
RATINGS AND CHARACTERISTICS CURVES($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Figure 1. Forward Current Derating Curve

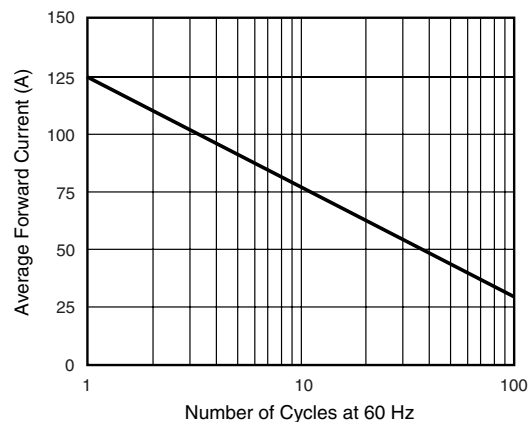


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

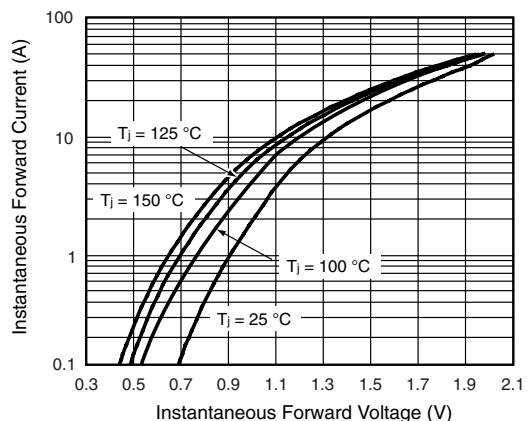


Figure 3. Typical Instantaneous Forward Characteristics

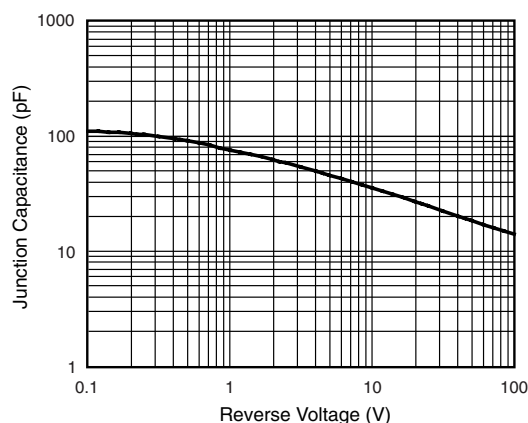


Figure 5. Typical Junction Capacitance

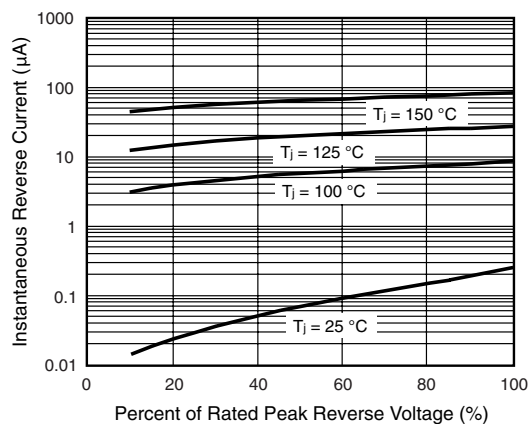


Figure 4. Typical Reverse Characteristics

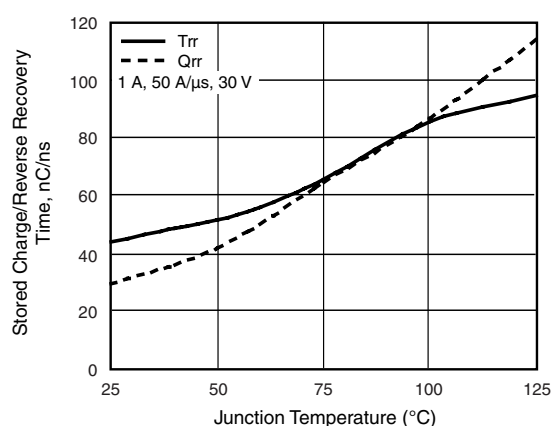
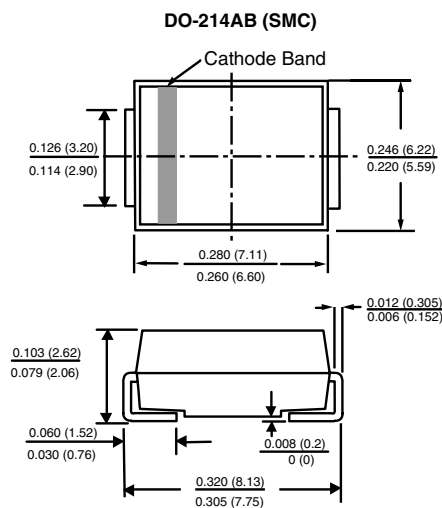
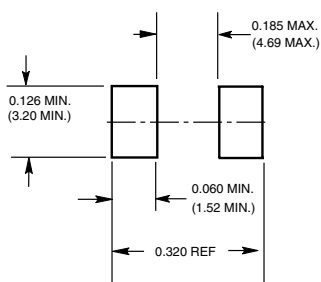


Figure 6. Typical Reverse Switching Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



Mounting Pad Layout





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