

Surface Mount Ultrafast Plastic Rectifier


DO-214AB (SMC)

RoHS
COMPLIANT
HALOGEN
FREE

FEATURES

- Glass passivated pellet 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-020, LF maximum peak of 260 °C
- Material categorization: for definitions of compliance please see www.vishay.com/doc?999912

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-214AB (SMC)

Molding compound meets UL 94 V-0 flammability rating
Base P/N-M3 - halogen-free, RoHS-compliant, and commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

M3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

PRIMARY 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
Package	DO-214AB (SMC)
Diode variations	Single die

MAXIMUM RATINGS (T _A = 25 °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: (fig. 1)	T _L = 130 °C	I _{F(AV)}	3.0	A
	T _L = 115 °C		4.0	
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	I _F = 3.0 A	T _J = 25 °C	V _F ⁽¹⁾	1.25		V
	I _F = 4.0 A			1.28		
	I _F = 3.0 A	T _J = 150 °C		1.05		
Maximum instantaneous reverse current at rated DC blocking voltage		T _J = 25 °C	I _R ⁽¹⁾	10		μA
		T _J = 150 °C		250		
Maximum reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		t _{rr}	50		ns
	I _F = 1.0 A, dI/dt = 50 A/μs, V _R = 30 V, I _{rr} = 10 % I _{RM}			75		
Maximum forward recovery time	I _F = 1.0 A, dI/dt = 100 A/μs, recovery to 1.0 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 lead	$R_{\theta JL}$	11		$^{\circ}\text{C}/\text{W}$

ORDERING INFORMATION (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
MURS340-M3/57T	0.211	57T	850	7" diameter plastic tape and reel
MURS340-M3/9AT	0.211	9AT	3500	13" diameter plastic tape and reel



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

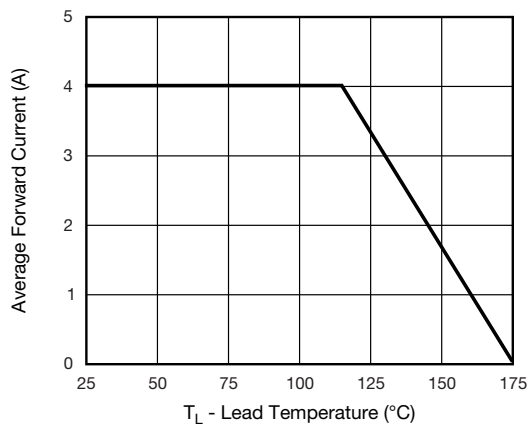


Fig. 1 - Forward Current Derating Curve

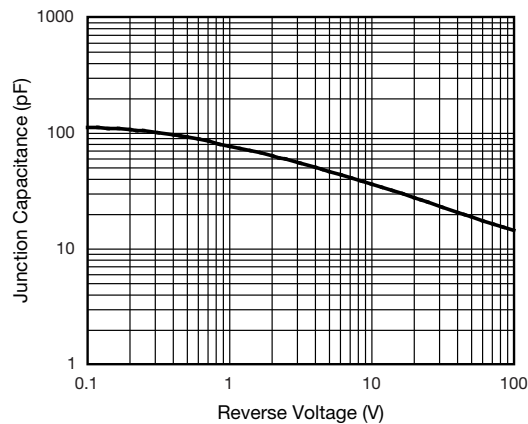


Fig. 4 - Typical Junction Capacitance

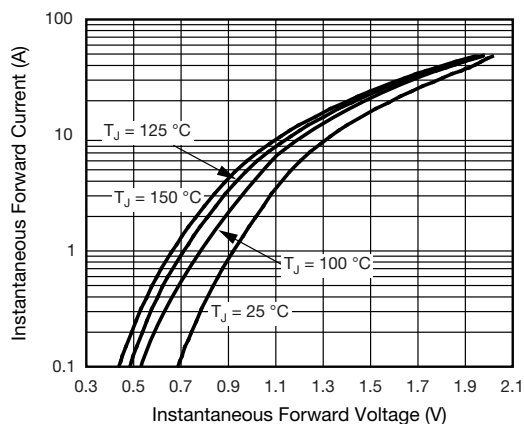


Fig. 2 - Typical Instantaneous Forward Characteristics

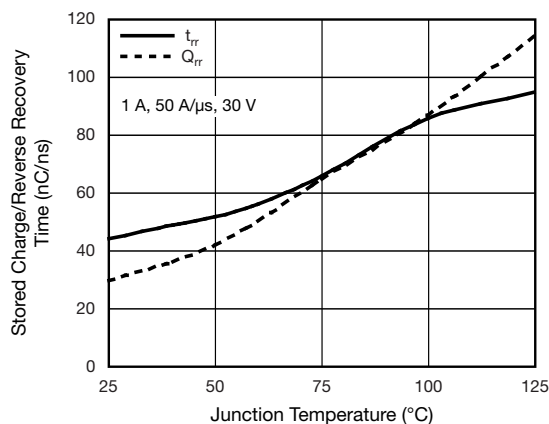


Fig. 5 - Typical Reverse Switching Characteristics

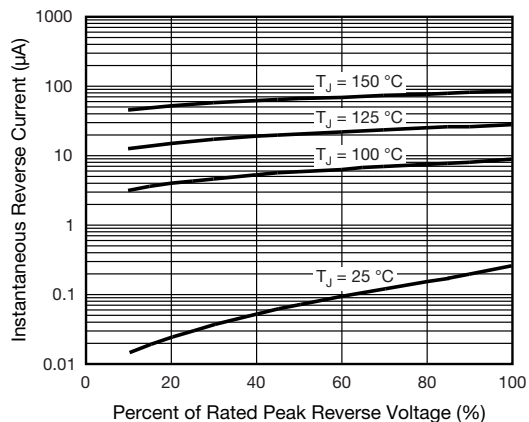
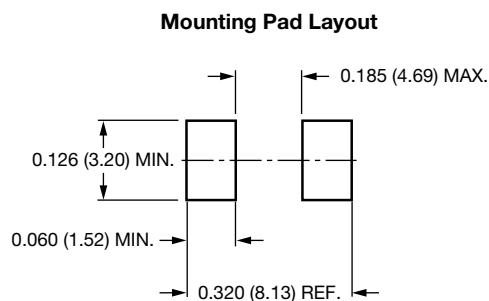
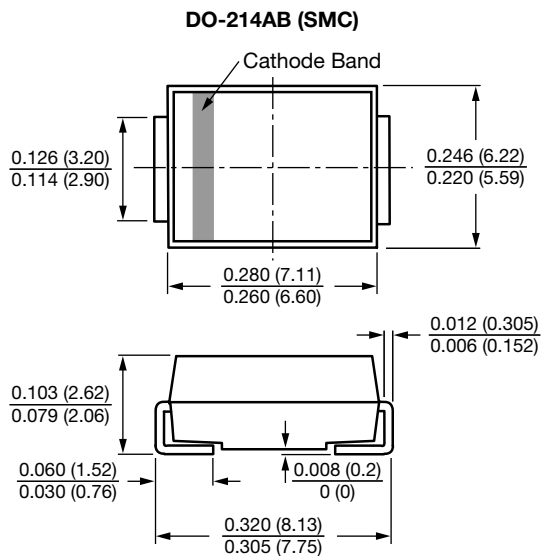


Fig. 3 - Typical Reverse Characteristics



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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