

Surface Mount Ultrafast Plastic Rectifier


DO-214AB (SMC)

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

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-020, LF maximum peak of 260 °C
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

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-E3 - RoHS-compliant, commercial grade
 Base P/NHE3 - RoHS-compliant, AEC-Q101 qualified
 Base P/NHE3_X - RoHS-compliant and AEC-Q101 qualified
 (“_X” denotes revision code e.g. A, B,)

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

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

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: (fig. 1)	$T_L = 130\text{ °C}$	3.0		A
	$T_L = 115\text{ °C}$	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 °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			I _R ⁽¹⁾	10		μA
				T _J = 150 °C		
Maximum reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		t _{rr}	50		ns
Maximum reverse recovery time	I _F = 1.0 A, di/dt = 50 A/μs, V _R = 30 V, I _{rr} = 10 % I _{RM}		t _{rr}	75		ns
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 μs, duty cycle ≤ 2 %

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	MURS340	MURS360	UNIT
Typical thermal resistance junction to ambient	R _{θJL}	11		°C/W

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
MURS340-E3/57T	0.211	57T	850	7" diameter plastic tape and reel
MURS340-E3/9AT	0.211	9AT	3500	13" diameter plastic tape and reel
MURS340HE3/57T ⁽¹⁾	0.211	57T	850	7" diameter plastic tape and reel
MURS340HE3/9AT ⁽¹⁾	0.211	9AT	3500	13" diameter plastic tape and reel
MURS340HE3_A/H ⁽¹⁾	0.211	H	850	7" diameter plastic tape and reel
MURS340HE3_A/I ⁽¹⁾	0.211	I	3500	13" diameter plastic tape and reel

Note

⁽¹⁾ AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

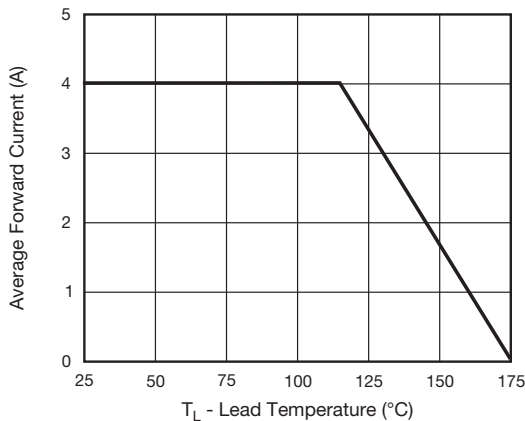


Fig. 1 - Forward Current Derating Curve

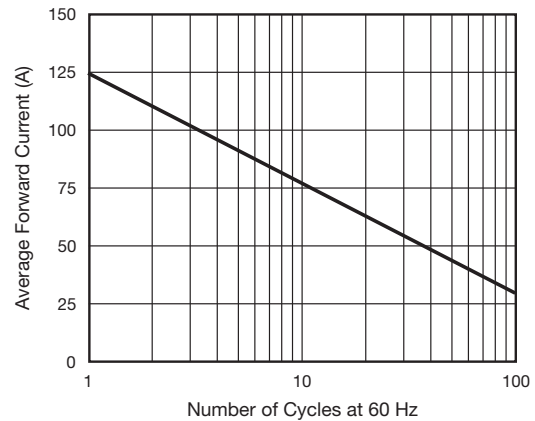


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

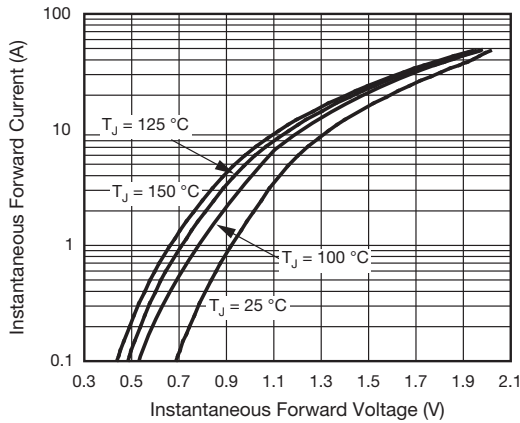


Fig. 3 - Typical Instantaneous Forward Characteristics

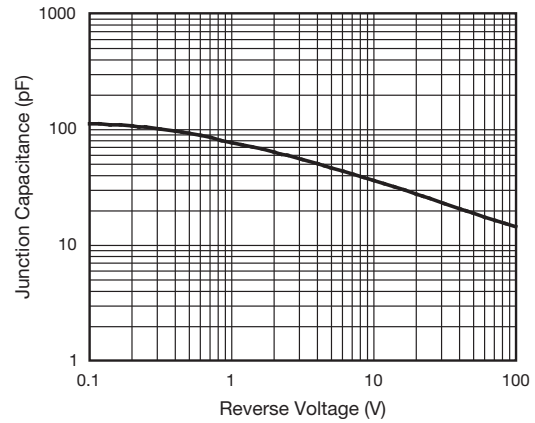


Fig. 5 - Typical Junction Capacitance

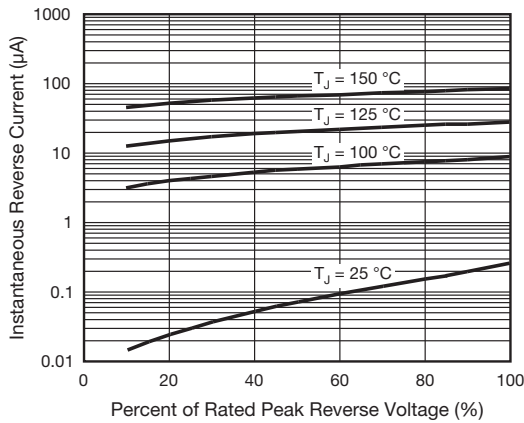


Fig. 4 - Typical Reverse Characteristics

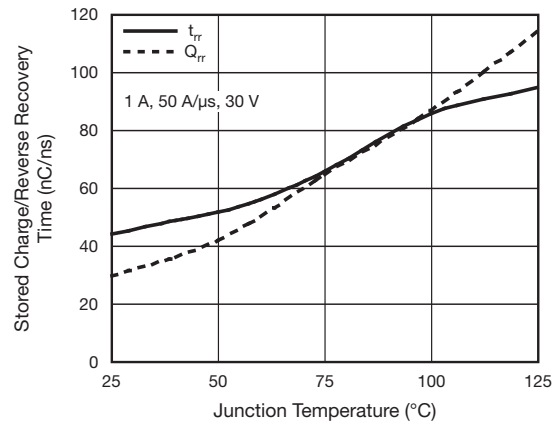
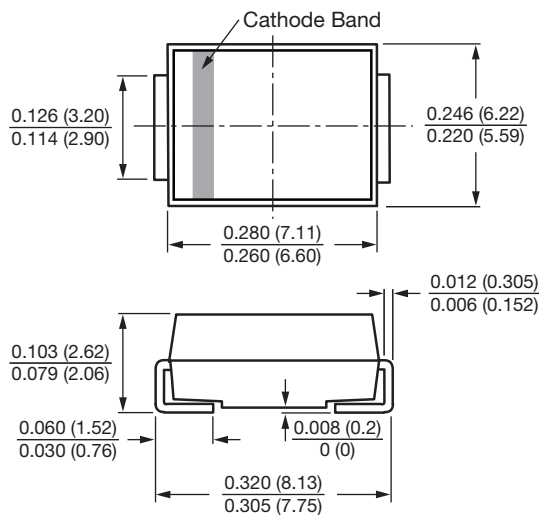


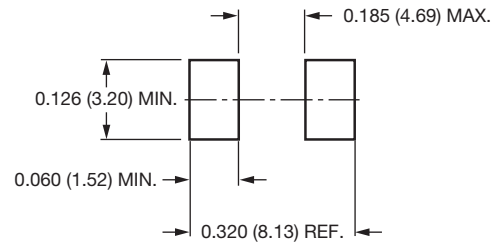
Fig. 6 - Typical Reverse Switching Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-214AB (SMC)



Mounting Pad Layout





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