

Surface Mount Ultrafast Plastic Rectifier



SMC (DO-214AB)

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
- AEC-Q101 qualified available
 - Automotive ordering code: base P/NHE3 or P/NHM3
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE
Available

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: SMC (DO-214AB)

Molding compound meets UL 94 V-0 flammability rating

Base P/N-E3 - RoHS-compliant, commercial grade

Base P/N-M3 - halogen-free, RoHS-compliant, commercial grade

Base P/NHE3_X - RoHS-compliant and AEC-Q101 qualified

Base P/NHM3_X - halogen-free, 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 2 whisker test, HE3 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	SMC (DO-214AB)
Diode variation	Single

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	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 °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
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: $t_p = 300\text{ }\mu\text{s}$, duty cycle $\leq 2\text{ \%}$

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
MURS360-E3/57T	0.211	57T	750	7" diameter plastic tape and reel
MURS360-E3/9AT	0.211	9AT	3200	13" diameter plastic tape and reel
MURS360HE3_A/H ⁽¹⁾	0.211	H	750	7" diameter plastic tape and reel
MURS360HE3_A/I ⁽¹⁾	0.211	I	3200	13" diameter plastic tape and reel
MURS360-M3/57T	0.211	57T	750	7" diameter plastic tape and reel
MURS360-M3/9AT	0.211	9AT	3200	13" diameter plastic tape and reel
MURS360HM3_A/H ⁽¹⁾	0.211	H	750	7" diameter plastic tape and reel
MURS360HM3_A/I ⁽¹⁾	0.211	I	3200	13" diameter plastic tape and reel

Note

⁽¹⁾ AEC-Q101 qualified



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

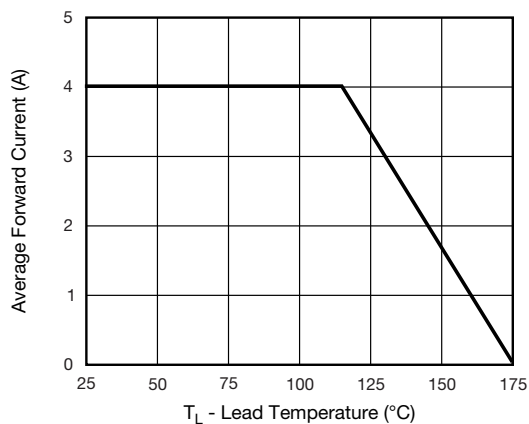


Fig. 1 - Forward Current Derating Curve

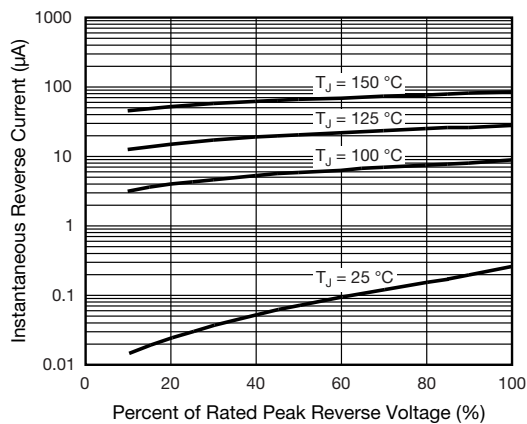


Fig. 4 - Typical Reverse Characteristics

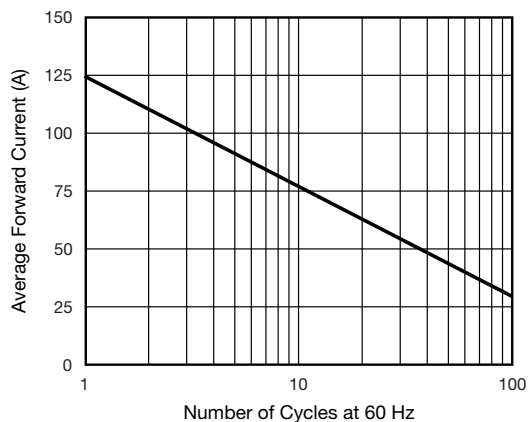


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

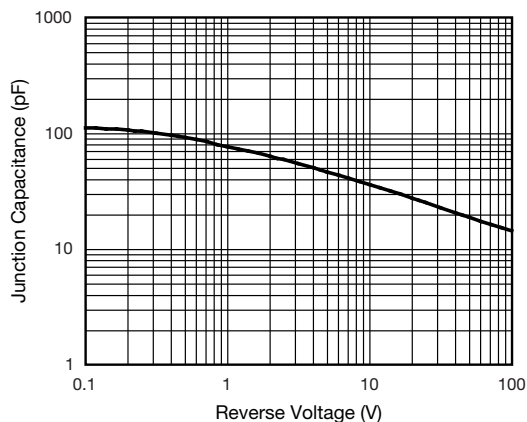


Fig. 5 - Typical Junction Capacitance

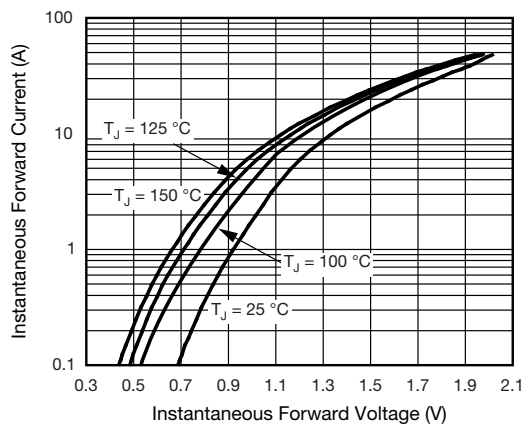


Fig. 3 - Typical Instantaneous Forward Characteristics

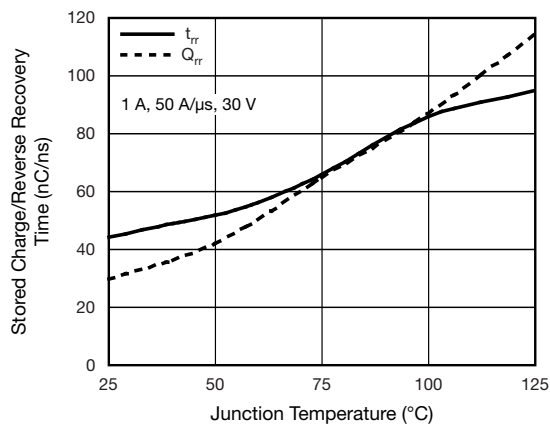
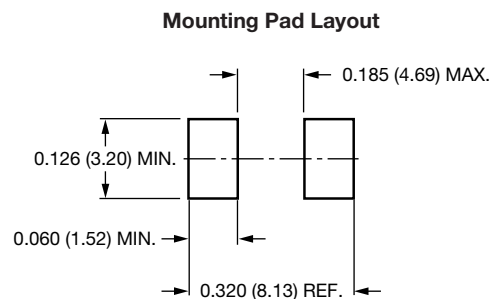
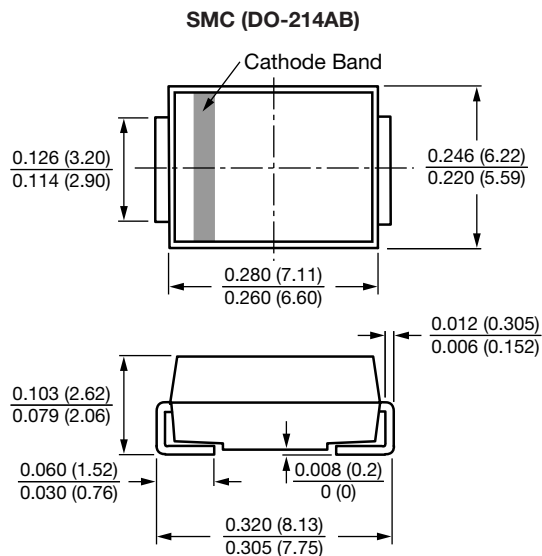


Fig. 6 - Typical Reverse Switching Characteristics



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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