AUTOMOTIVE GRADE

RoHS

COMPLIANT

HALOGEN FREE



Vishay General Semiconductor

Surface-Mount Ultrafast Plastic Rectifier



SMC (DO-214AB)



LINKS TO ADDITIONAL RESOURCES



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 max.	175 °C				
Package	SMC (DO-214AB)				
Circuit configuration	Single				

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

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

 ${\bf Base\ P/N\text{-}M3\ -\ halogen\text{-}free,\ RoHS\text{-}compliant,\ commercial}}$

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

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 restified assured at (fig. 1)	T _L = 130 °C	-	3.0 4.0		Δ.
Maximum average forward rectified current at: (fig. 1)	T _L = 115 °C	I _{F(AV)}			А
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load		I _{FSM}	125		Α
Operating junction and storage temperature range		T _J , T _{STG}	G -65 to +175		°C



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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 _ 05 °C	V _F ⁽¹⁾	1.25			
	I _F = 4.0 A	T _J = 25 °C		1.28		V	
	I _F = 3.0 A	T _J = 150 °C		1.05			
Maximum instantaneous reverse current		T _J = 25 °C	I _R ⁽¹⁾	10		μΑ	
at rated DC blocking voltage		T _J = 150 °C	IR ('')	250			
Maximum reverse recovery time	$I_F = 0.5 \text{ A}, I_R = 1.0 \text{ A}, I_{rr} = 0.25 \text{ A}$		t _{rr}	50		ns	
Maximum reverse recovery time	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, dl/dt = 100 A/μs, recovery to 1.0 V		t _{fr}	25		ns	

Note

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

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	MURS340	MURS360	UNIT	
Typical thermal resistance junction to lead	$R_{\theta JL}$	11		°C/W	

ORDERING INFORMATION (Example)						
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
MURS360-E3/57T	0.211	57T	850	7" diameter plastic tape and reel		
MURS360-E3/9AT	0.211	9AT	3500	13" diameter plastic tape and reel		
MURS360HE3_A/H (1)	0.211	Н	850	7" diameter plastic tape and reel		
MURS360HE3_A/I (1)	0.211	I	3500	13" diameter plastic tape and reel		
MURS360-M3/57T	0.211	57T	850	7" diameter plastic tape and reel		
MURS360-M3/9AT	0.211	9AT	3500	13" diameter plastic tape and reel		
MURS360HM3_A/H (1)	0.211	Н	850	7" diameter plastic tape and reel		
MURS360HM3_A/I (1)	0.211	I	3500	13" diameter plastic tape and reel		

Note

(1) AEC-Q101 qualified

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RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

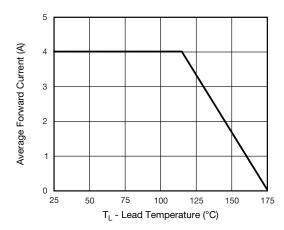
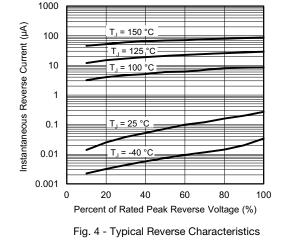


Fig. 1 - Forward Current Derating Curve



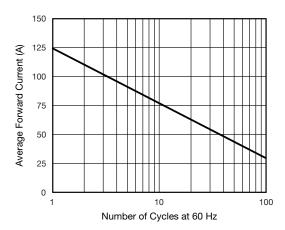


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

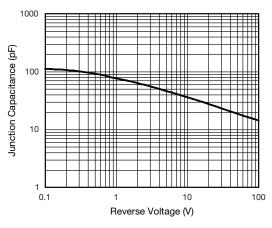


Fig. 5 - Typical Junction Capacitance

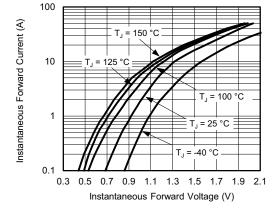


Fig. 3 - Typical Instantaneous Forward Characteristics

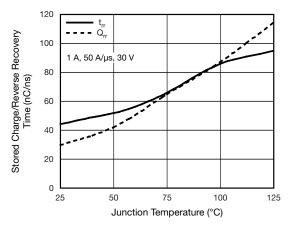


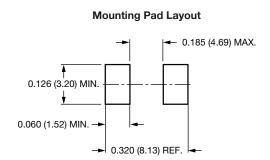
Fig. 6 - Typical Reverse Switching Characteristics



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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

SMC (DO-214AB) Cathode Band 0.246 (6.22) 0.126 (3.20) 0.220 (5.59) 0.114 (2.90) 0.280 (7.11) 0.260 (6.60) 0.012 (0.305) 0.006 (0.152) 0.103 (2.62) 0.079 (2.06) 0.060 (1.52) 0.008 (0.2) 0.030 (0.76) 0 (0) 0.320 (8.13) 0.305 (7.75)





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