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Vishay Semiconductor/Diodes Division
MURS340-E3/57T

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MURS340, MURS360

Vishay General Semiconductor

Surface Mount Ultrafast Plastic Rectifier

DO-214AB (SMC)

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
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

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	DO-214AB (SMC)
Diode variation	Single die

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_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 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 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 °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 µs, duty cycle ≤ 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
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_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)

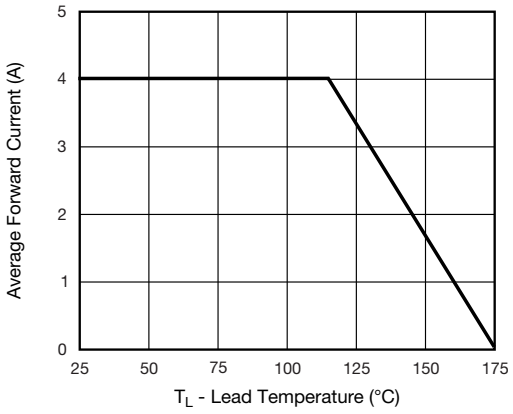


Fig. 1 - Forward Current Derating Curve

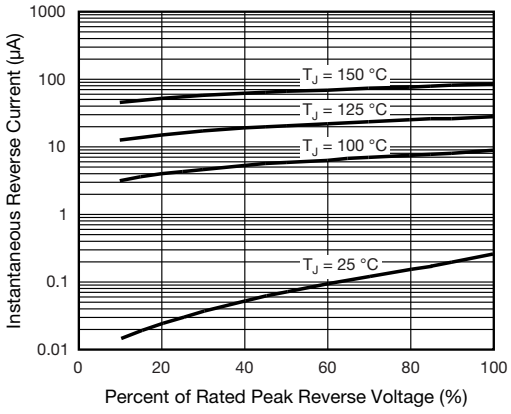


Fig. 4 - Typical Reverse Characteristics

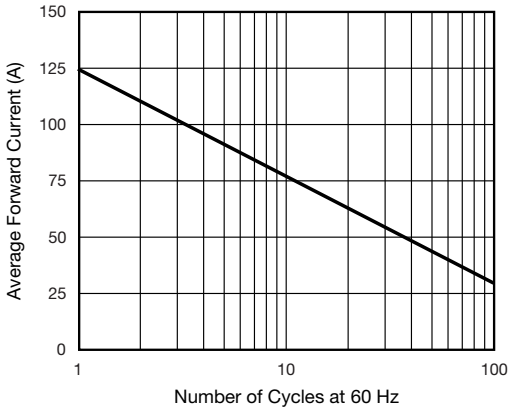


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

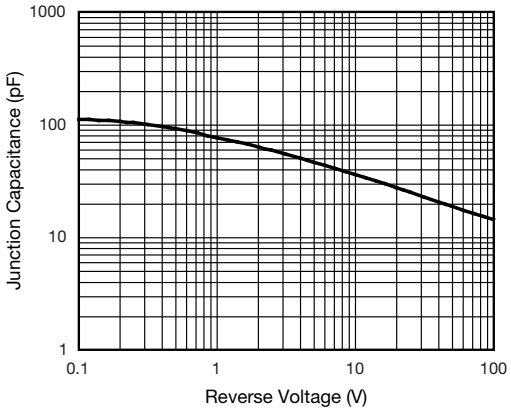


Fig. 5 - Typical Junction Capacitance

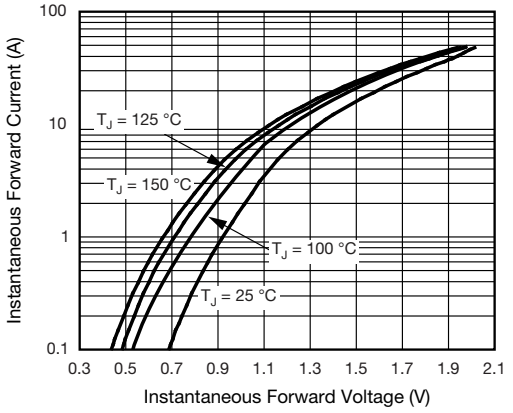


Fig. 3 - Typical Instantaneous Forward Characteristics

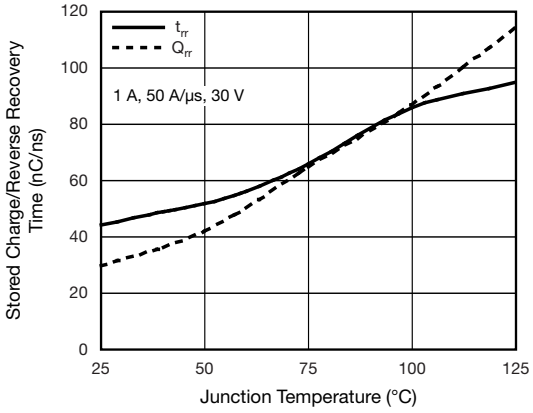
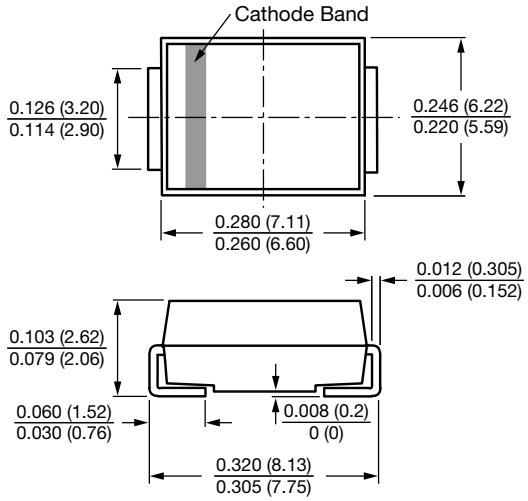


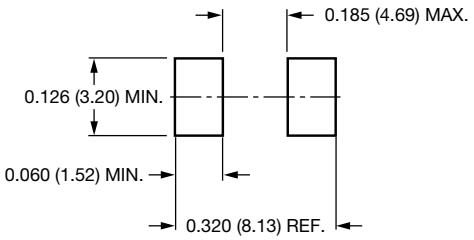
Fig. 6 - Typical Reverse Switching Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-214AB (SMC)



Mounting Pad Layout



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