

Surface Mount Ultrafast Plastic Rectifier



DO-214AA (SMB)

FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low switching losses, high efficiency
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Solder dip 260 °C, 40 s
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

RoHS
COMPLIANT

TYPICAL APPLICATIONS

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

PRIMARY CHARACTERISTICS

$I_{F(AV)}$	3.0 A
V_{RRM}	400 V, 600 V
I_{FSM}	35 A
t_{rr}	50 ns
V_F at $I_F = 3.0$ A	1.20 V
T_J max.	175 °C

MECHANICAL DATA

Case: DO-214AA (SMB)

Epoxy meets UL 94 V-0 flammability rating

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

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC-Q101 qualified), meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)

PARAMETER	SYMBOL	MURS340S	MURS360S	UNIT
Device marking codes		3GS	3JS	
Maximum repetitive peak reverse voltage	V_{RRM}	400	600	V
Maximum average forward rectified current $T_M = 130$ °C ⁽¹⁾ $T_A = 25$ °C ⁽²⁾	$I_{F(AV)}$	3.0 1.5		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	35		A
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175		°C

Notes:

- (1) Units mounted on P.C.B. with 8 mm x 8 mm, 1 oz. copper pad areas (Fig. 1)
 (2) Free air, mounted on recommended copper pad area (Fig. 2)



MURS340S & MURS360S

Vishay General Semiconductor



ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	MURS340S	MURS360S	UNIT
Maximum instantaneous forward voltage ⁽¹⁾	I _F = 3.0 A	T _J = 25 °C T _J = 150 °C	V _F	1.45 1.20		V
Maximum instantaneous reverse current ⁽²⁾	Rated V _R	T _J = 25 °C T _J = 150 °C	I _R	5.0 150		μA
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

Notes:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle(2) Pulse test: Pulse width $\leq 40\text{ ms}$

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	MURS340S	MURS360S	UNIT
Typical thermal resistance ⁽¹⁾	$R_{\theta JM}$	12		$^{\circ}\text{C}/\text{W}$
Typical thermal resistance ⁽²⁾	$R_{\theta JA}$	120		$^{\circ}\text{C}/\text{W}$

Notes:

(1) Units mounted on P.C.B. with 8 mm x 8 mm, 1 oz. copper pad areas. Thermal resistance $R_{\theta JM}$ - junction to mount(2) Free air, mounted on recommended copper pad area. Thermal resistance $R_{\theta JA}$ - junction to ambient

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
MURS360S-E3/52T	0.093	52T	750	7" diameter plastic tape and reel
MURS360S-E3/5BT	0.093	5BT	3200	13" diameter plastic tape and reel
MURS360SHE3/52T ⁽¹⁾	0.093	52T	750	7" diameter plastic tape and reel
MURS360SHE3/5BT ⁽¹⁾	0.093	5BT	3200	13" diameter plastic tape and reel

Note:

(1) AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

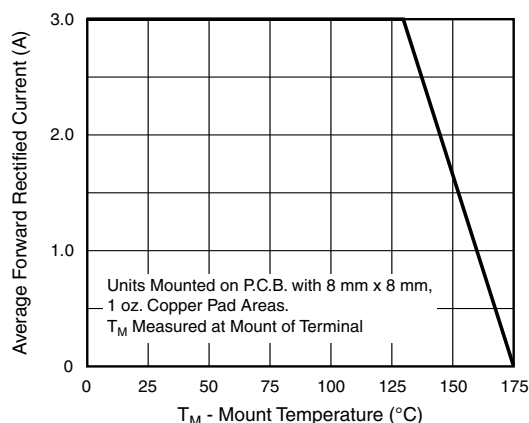
($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Figure 1. Forward Current Derating Curve

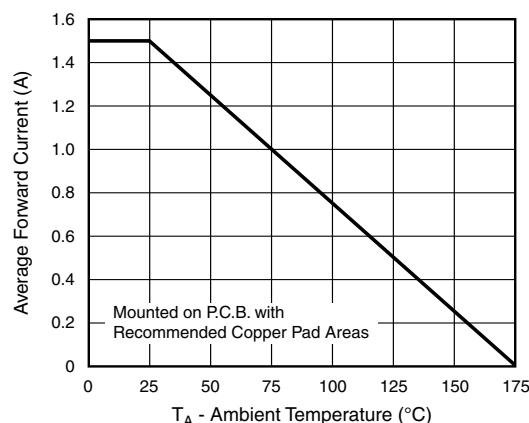


Figure 2. Forward Current Derating Curve

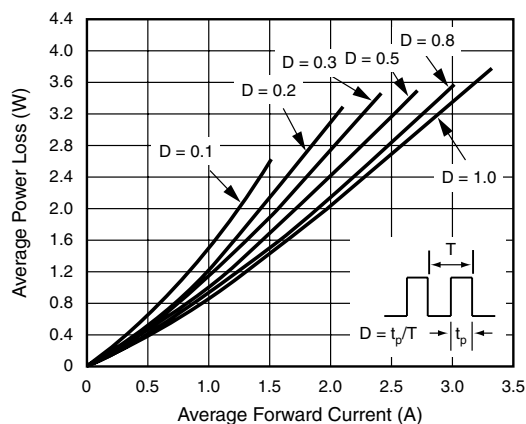


Figure 3. Forward Power Loss Characteristics

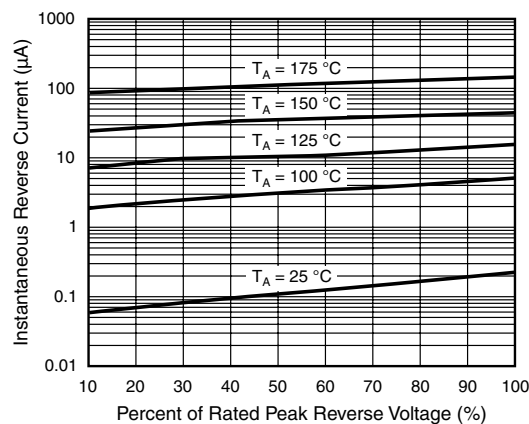


Figure 5. Typical Reverse Characteristics

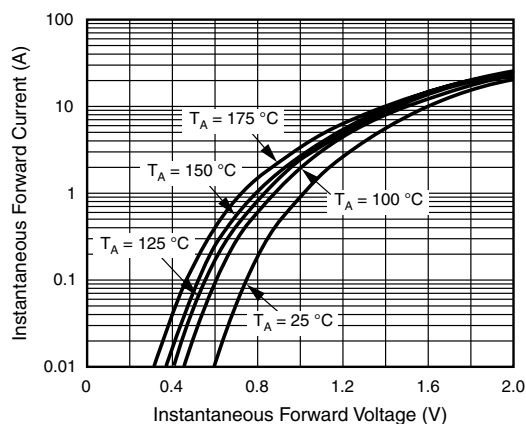


Figure 4. Typical Instantaneous Forward Characteristics

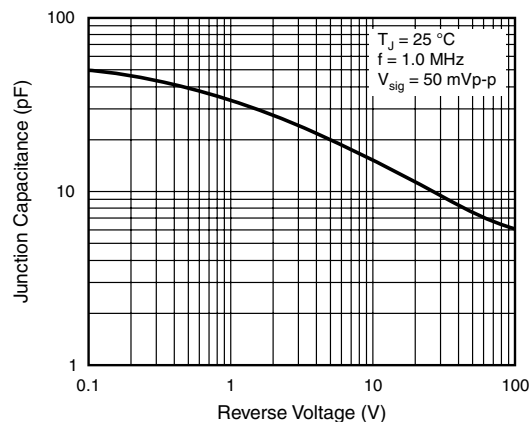
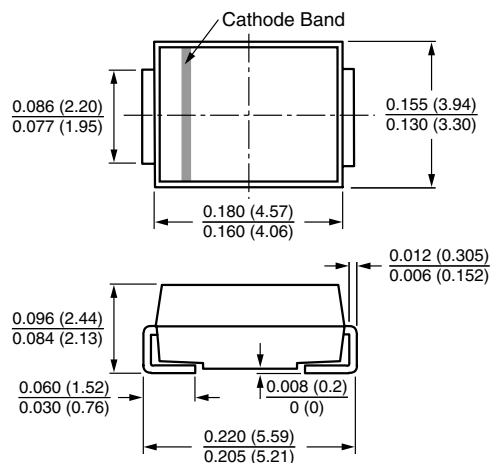
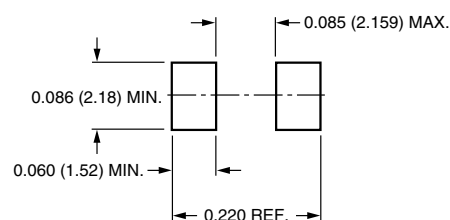


Figure 6. Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)**DO-214AA (SMB)****Mounting Pad Layout**

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All product specifications and data are subject to change without notice.

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