



**THE DATASHEET OF  
MURS340S-E3/5BT**





## Surface-Mount Ultrafast Plastic Rectifier



SMB (DO-214AA)



### FEATURES

- Glass passivated pellet 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
- AEC-Q101 qualified available  
- Automotive ordering code: base P/NHE3
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### LINKS TO ADDITIONAL RESOURCES



### 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
Package	SMB (DO-214AA)
Circuit configuration	Single

### MECHANICAL DATA

**Case:** SMB (DO-214AA)  
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 and HE3 suffix meet 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	$I_{F(AV)}^{(1)}$		A
	$T_A = 25$ °C	$I_{F(AV)}^{(2)}$		
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 PCB with 8 mm x 8 mm, 1 oz. copper pad areas (fig. 1)  
(2) Free air, mounted on recommended copper pad area (fig. 2)



<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)					
PARAMETER	TEST CONDITIONS	SYMBOL	MURS340S	MURS360S	UNIT
Maximum instantaneous forward voltage	$I_F = 3.0\text{ A}$	$T_J = 25\text{ }^\circ\text{C}$	$V_F^{(1)}$	1.45	V
		$T_J = 150\text{ }^\circ\text{C}$		1.20	
Maximum instantaneous reverse current	Rated $V_R$	$T_J = 25\text{ }^\circ\text{C}$	$I_R^{(2)}$	5.0	$\mu\text{A}$
		$T_J = 150\text{ }^\circ\text{C}$		150	
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	$I_F = 1.0\text{ A}$ , $dI/dt = 50\text{ A}/\mu\text{s}$ , $V_R = 30\text{ V}$ , $I_{rr} = 10\% I_{RM}$	$t_{rr}$		75	ns

**Notes**

- (3) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle  
 (4) Pulse test: pulse width  $\leq 40\text{ ms}$

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

**Notes**

- (1) Units mounted on PCB 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

<b>ORDERING INFORMATION</b> (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_A/H <sup>(1)</sup>	0.093	H	750	7" diameter plastic tape and reel
MURS360SHE3_A/I <sup>(1)</sup>	0.093	I	3200	13" diameter plastic tape and reel

**Note**

- (1) AEC-Q101 qualified



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

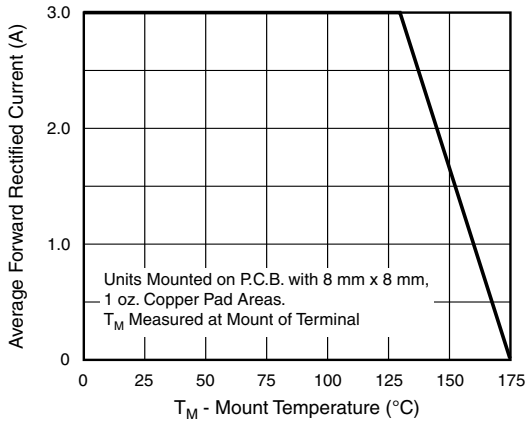


Fig. 1 - Forward Current Derating Curve

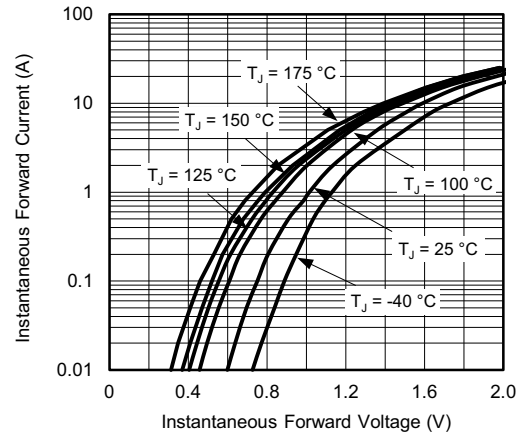


Fig. 4 - Typical Instantaneous Forward Characteristics

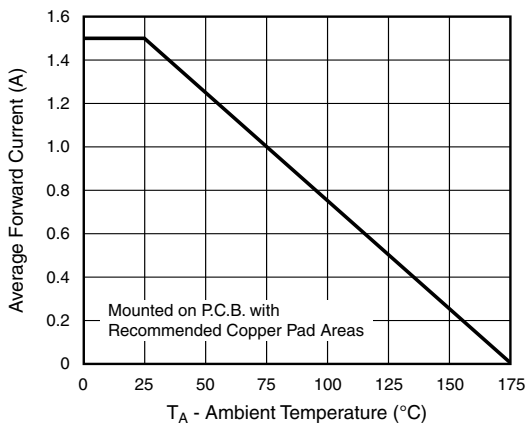


Fig. 2 - Forward Current Derating Curve

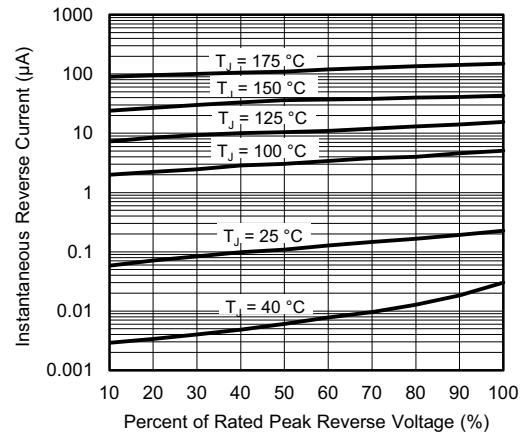


Fig. 5 - Typical Reverse Characteristics

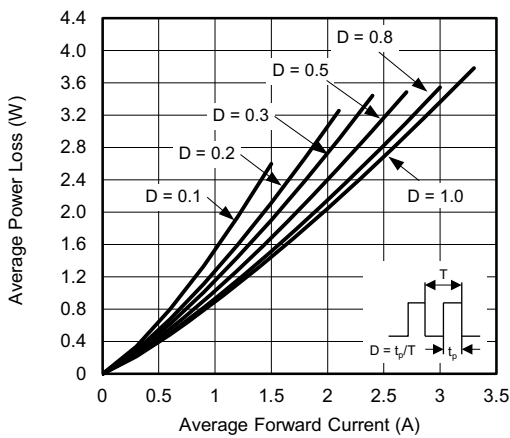


Fig. 3 - Forward Power Loss Characteristics

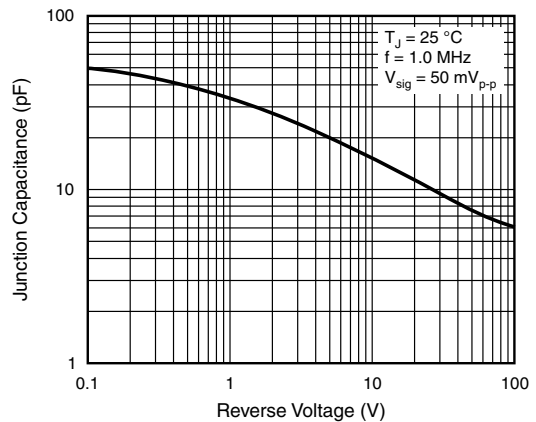
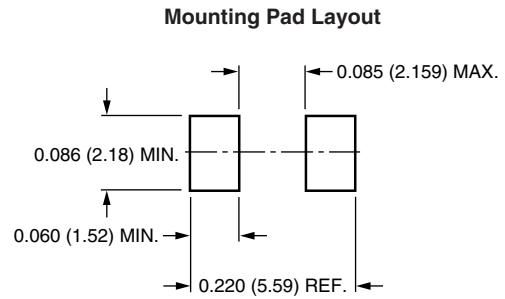
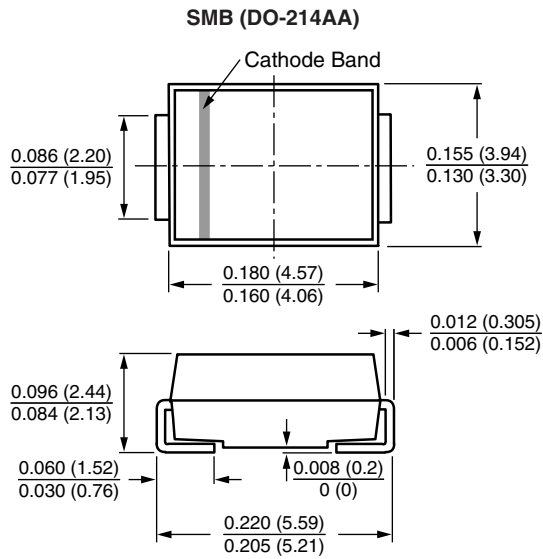


Fig. 6 - Typical Junction Capacitance



## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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