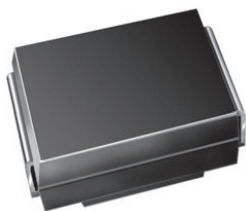


# Surface-Mount Ultrafast Plastic Rectifier


**SMB (DO-214AA)**

Cathode  Anode

## LINKS TO ADDITIONAL RESOURCES


[3D Models](#)

**RoHS**  
COMPLIANT

## 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)

## 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	$I_{F(AV)}^{(1)}$	3.0	A
	$T_A = 25$ °C	$I_{F(AV)}^{(2)}$	1.5	
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

<sup>(1)</sup> Units mounted on PCB with 8 mm x 8 mm, 1 oz. copper pad areas (fig. 1)

<sup>(2)</sup> Free air, mounted on recommended copper pad area (fig. 2)

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

PARAMETER	TEST CONDITIONS		SYMBOL	MURS340S	MURS360S	UNIT
Maximum instantaneous forward voltage	I <sub>F</sub> = 3.0 A	T <sub>J</sub> = 25 °C	V <sub>F</sub> <sup>(1)</sup>	1.45		V
		T <sub>J</sub> = 150 °C		1.20		
Maximum instantaneous reverse current	Rated V <sub>R</sub>	T <sub>J</sub> = 25 °C	I <sub>R</sub> <sup>(2)</sup>	5.0		μA
		T <sub>J</sub> = 150 °C		150		
Maximum reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A		t <sub>rr</sub>	50		ns
Maximum reverse recovery time	I <sub>F</sub> = 1.0 A, dI/dt = 50 A/μs, V <sub>R</sub> = 30 V, I <sub>rr</sub> = 10 % I <sub>RM</sub>		t <sub>rr</sub>	75		ns

**Notes**(3) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle(4) 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	$R_{\theta JM}^{(1)}$	12		°C/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**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_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

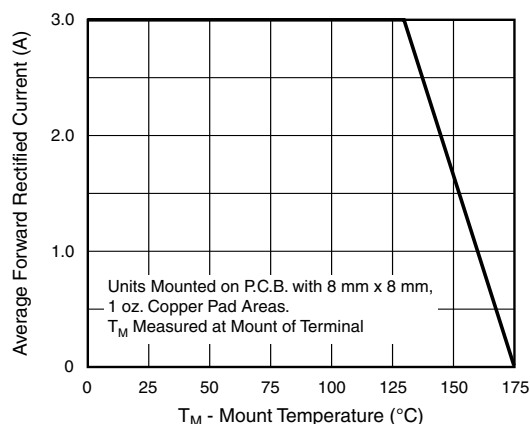
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

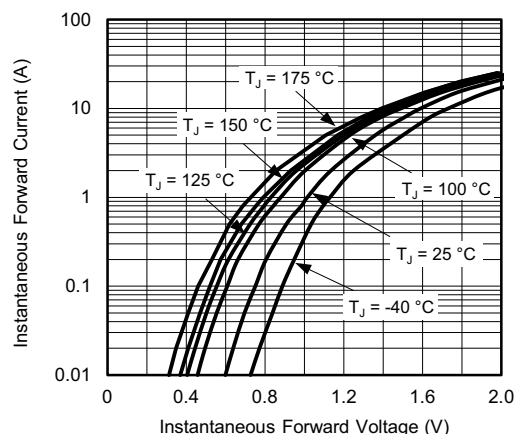


Fig. 4 - Typical Instantaneous Forward Characteristics

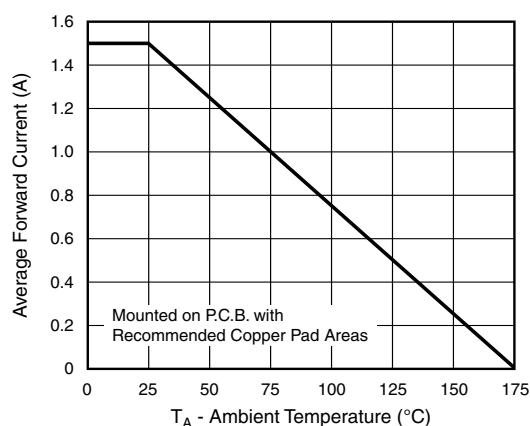


Fig. 2 - Forward Current Derating Curve

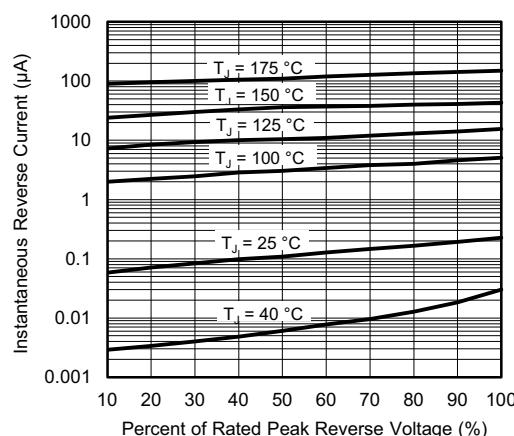


Fig. 5 - Typical Reverse Characteristics

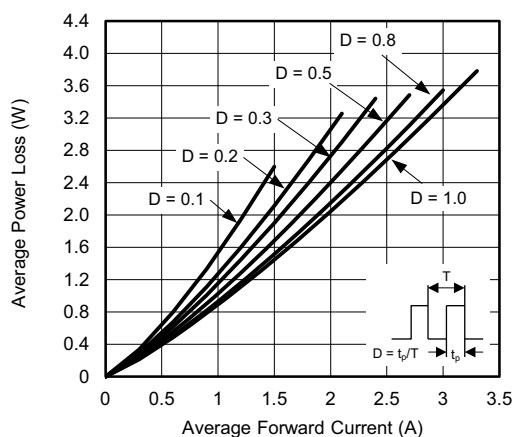


Fig. 3 - Forward Power Loss Characteristics

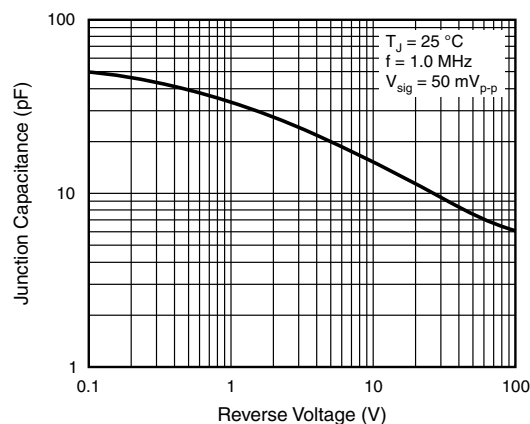
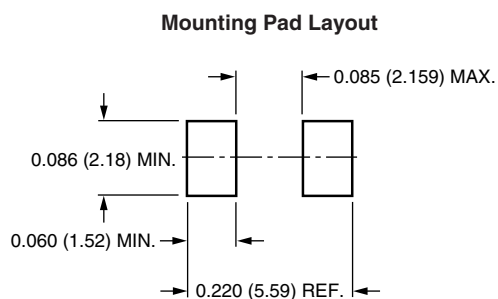
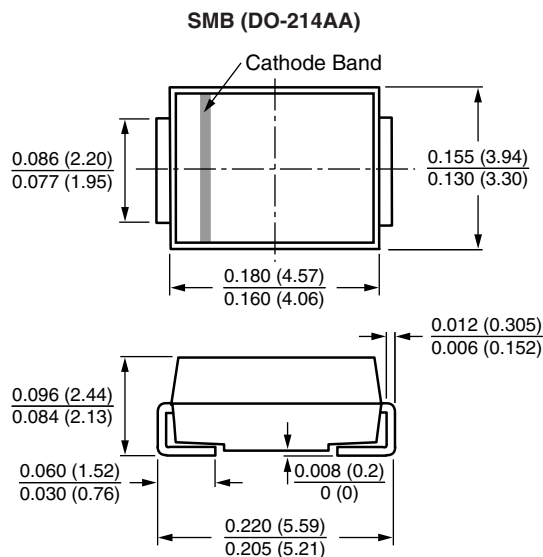


Fig. 6 - Typical Junction Capacitance



## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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