



## 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
- Component in accordance to RoHS 2002/95/EC and 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.

### MECHANICAL DATA

**Case:** DO-214AA (SMB)

Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

**Polarity:** Color band denotes cathode end

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

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 (Fig. 1) <sup>(1)</sup>	$I_{F(AV)}$	3.0		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

**Note:**

(1) Units mounted on P.C.B. with 0.31 x 0.31" (8.0 x 8.0 mm) copper pad areas



ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	MURS340S	MURS360S	UNIT
Maximum instantaneous forward voltage <sup>(1)</sup>	I <sub>F</sub> = 3.0 A	T <sub>J</sub> = 25 °C T <sub>J</sub> = 150 °C	V <sub>F</sub>	1.45 1.20		V
Maximum instantaneous reverse current <sup>(2)</sup>	rated V <sub>R</sub>	T <sub>J</sub> = 25 °C T <sub>J</sub> = 150 °C	I <sub>R</sub>	5.0 150		μA
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:**

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
- (2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	MURS340S	MURS360S	UNIT
Typical thermal resistance <sup>(1)</sup>	R <sub>θJM</sub>	12		°C/W

**Note:**

- (1) Units mounted on P.C.B. with 8 x 8 mm, 1 oz. copper pad areas. Thermal resistance R<sub>θJM</sub> - junction to mount

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

**RATINGS AND CHARACTERISTICS CURVES**

(T<sub>A</sub> = 25 °C unless otherwise noted)

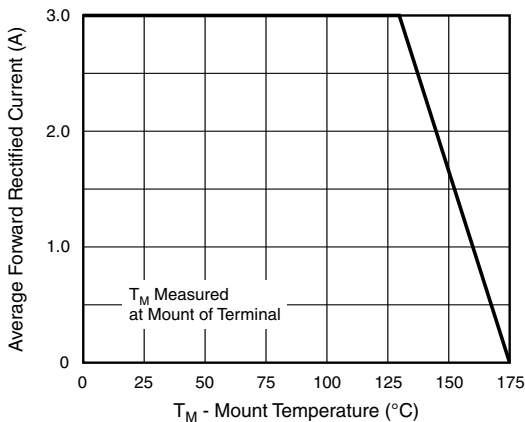


Figure 1. Forward Current Derating Curve

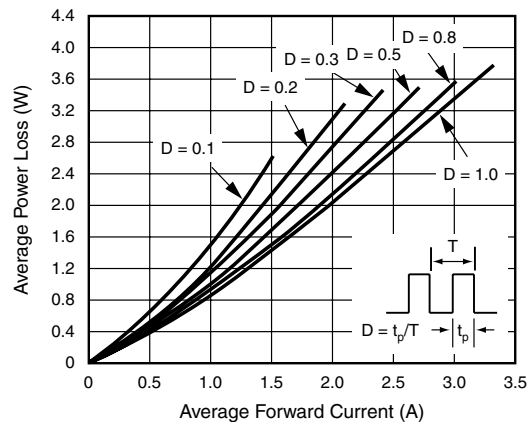


Figure 2. Forward Power Loss Characteristics

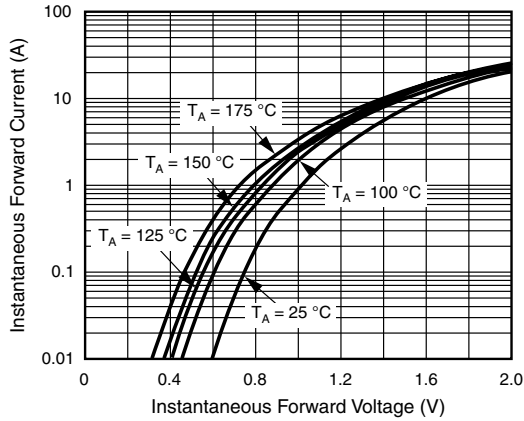


Figure 3. Typical Instantaneous Forward Characteristics

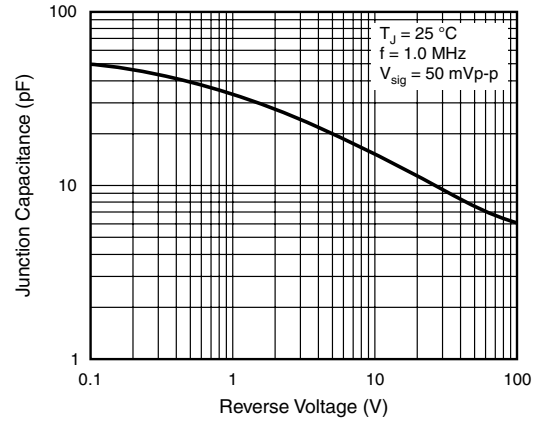


Figure 5. Typical Junction Capacitance

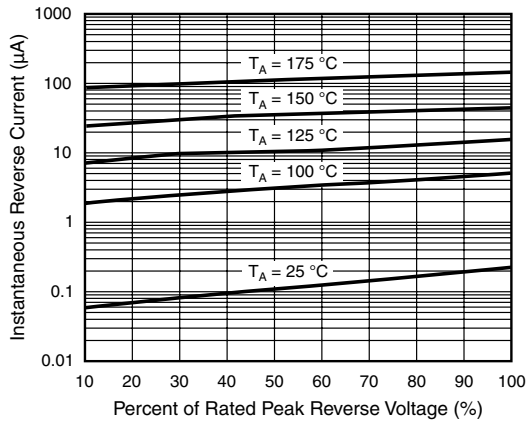
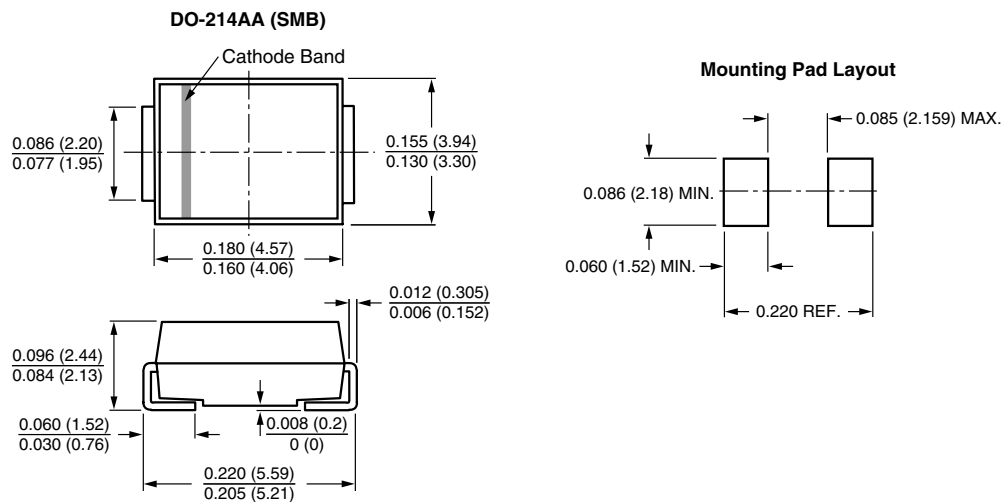


Figure 4. Typical Reverse Characteristics

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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