

## Surface Mount Schottky Barrier Rectifier

### FEATURES

- Ideal for automated placement
- Low forward voltage drop
- Low leakage current
- Meets environmental standard MIL-S-19500D
- Moisture sensitivity: level 1, per J-STD-020
- Solder dip 275 °C, 10 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



DO-213AA

### TYPICAL APPLICATIONS

For use in general purpose rectification of lighting, power supplies, inverters, converters and freewheeling diodes for consumer, automotive and telecommunication.

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1 A
$V_{RRM}$	20 V to 100 V
$I_{FSM}$	27 A
$V_F$	0.5 V, 0.8V
$T_J \text{ max.}$	150 °C

### MECHANICAL DATA

**Case:** DO-213AA, molded epoxy body , Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22B-106

**Polarity:** One silver ring denotes cathode and the type numbers are noted on the label on the reel

MAXIMUM RATINGS (TA = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	SGL1A	SGL1B	SGL1D	SGL1G	SGL1J	SGL1K	SGL1M	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	80	100	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	56	70	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	80	100	V
Maximum average forward rectified current at $T_T = 75$ °C	$I_{F(AV)}$	1							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	27							A
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to + 150							°C

ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)											
PARAMETER	TEST CONDITIONS	SYMBOL	SGL1A	SGL1B	SGL1D	SGL1G	SGL1J	SGL1K	SGL1M	UNIT	
Maximum instantaneous forward voltage	1 A	V <sub>F</sub>	0.5				0.8				V
Maximum DC reverse current at rated DC blocking voltage	TA=25 TA=125	I <sub>R</sub>	0.5				10				mA
Typical junction capacitance	4.0 V, 1 MHz	C <sub>J</sub>	110								pF

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER	SYMBOL	SGL1A	SGL1B	SGL1D	SGL1G	SGL1J	SGL1K	SGL1M	UNIT	
Maximum thermal resistance	R <sub>θJA</sub> (1)	90								°C/W
	R <sub>θJT</sub> (2)	20								

Notes: (1) Thermal resistance from junction to ambient, 0.24 × 0.24" ( 6.0 × 6.0mm ) copper pads to each terminal  
 (2) Thermal resistance from junction to terminal, 0.24 × 0.24" ( 6.0 × 6.0mm ) copper pads to each terminal

### RATINGS AND CHARACTERISTICS CURVES

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

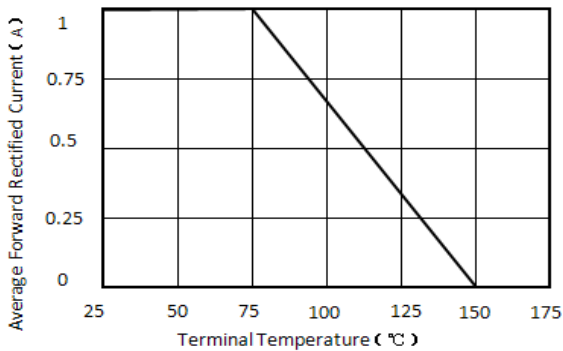


Figure 1. Forward Current Derating Curve

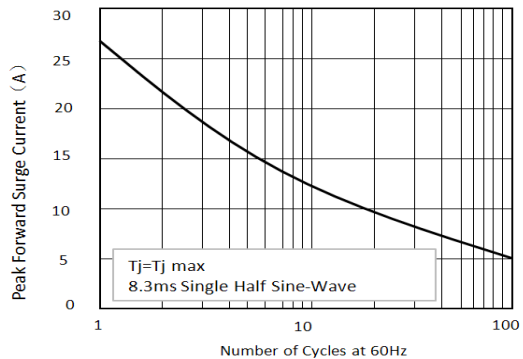


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

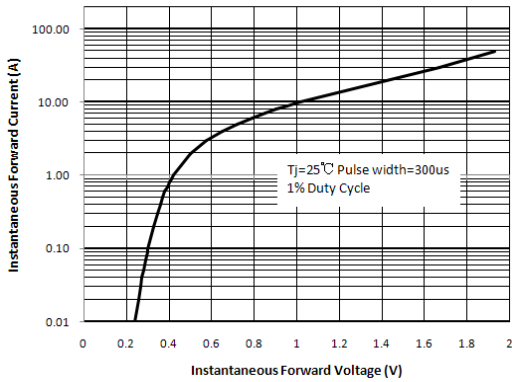


Figure 3. Typical Instantaneous Forward Characteristics

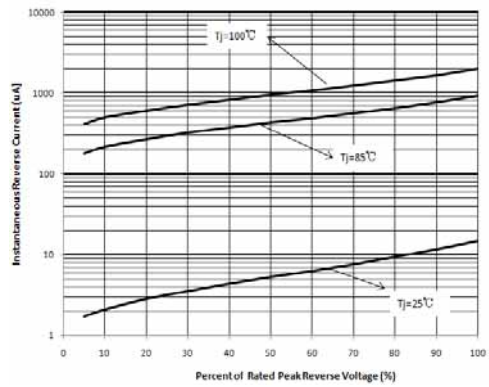


Figure 4. Typical Reverse Characteristics

Typical Junction capacitance

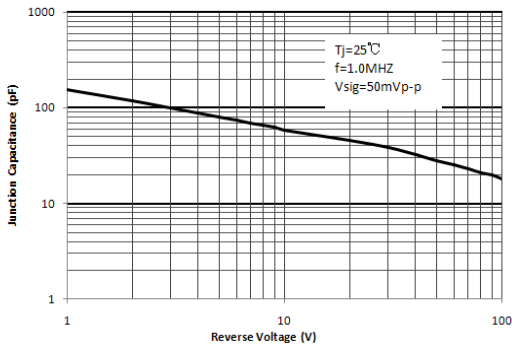


Figure 5. Typical Junction Capacitance

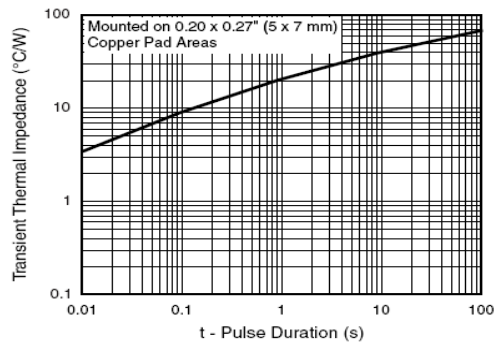


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-213AA

