

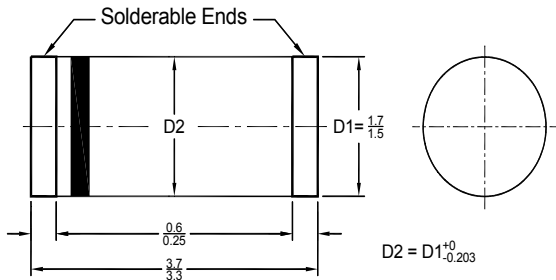


# SM5817 THRU SM5819

**SURFACE MOUNT SCHOTTKY BARRIER RECTIFIERS**

**VOLTAGE RANGE: 20 --- 40 V CURRENT: 1.0 A**

## DO-213AA



### FEATURES

- ◇ Metal-Semiconductor junction with guard ring
- ◇ Epitaxial construction
- ◇ Low forward voltage drop, low switching losses
- ◇ High surge capability
- ◇ For use in low voltage, high frequency inverters free wheeling, and polarity protection applications
- ◇ The plastic material carries U/L recognition 94V-0

### MECHANICAL DATA

- ◇ Case: MiniMELF (DO-213AA), molded plastic body
- ◇ Terminals: Solder plated, solderable per MIL-STD-750, method 2026
- ◇ Polarity: Color band denotes cathode end
- ◇ Mounting Position: Any

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

MDD Catalog Number		LM5817	LM5818	LM5819	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	20	30	40	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	V
Maximum average forward rectified current @ $T_A = 90^\circ C$	$I_{F(AV)}$	1.0			A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load	$I_{FSM}$	25			A
Maximum instantaneous forward voltage @ 1.0A (Note 1) @ 3.0A	$V_F$	0.45 0.75	0.55 0.875	0.60 0.90	V
Maximum reverse current @ $T_A = 25^\circ C$ at rated DC blocking voltage @ $T_A = 100^\circ C$	$I_R$	0.5 10.0			mA
Typical junction capacitance (Note2)	$C_J$	110			pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	75			$^\circ C/W$
Operating junction temperature range	$T_J$	- 55 ---- + 125			$^\circ C$
Storage temperature range	$T_{STG}$	- 55 ---- + 150			$^\circ C$

NOTE: 1. Pulse test : 300  $\mu$ s pulse width, 1% duty cycle.  
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.  
3. Thermal resistance junction to ambient, vertical PC board mounting, 0.5" (12.7mm) lead length.

**MDD ELECTRONIC**

# RATINGS AND CHARACTERISTIC CURVES LM5817 THRU LM5819

FIG.1-FORWARD CURRENT DERATING CURVE

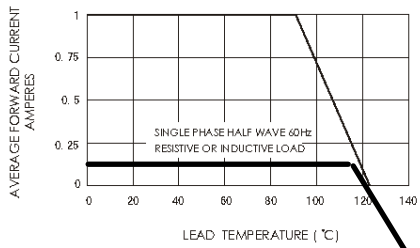


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

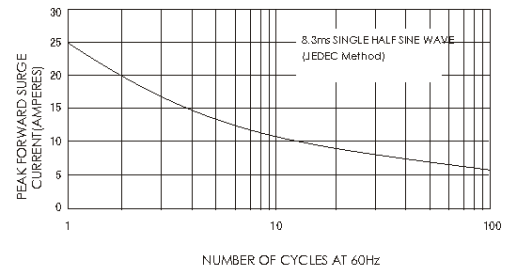


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

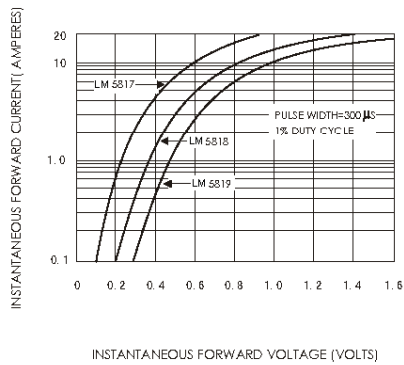


FIG.4-TYPICAL REVERSE CHARACTERISTICS

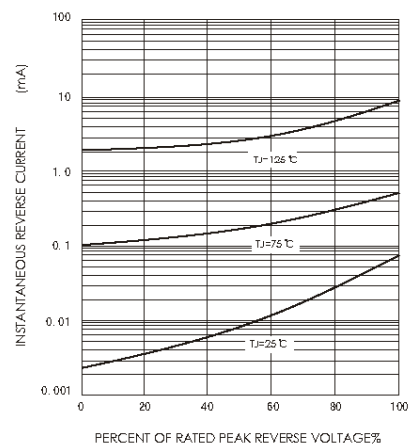


FIG.5-TYPICAL JUNCTION CAPACITANCE

