

Microsemi Corp.

The diode experts

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MLL5817, MLL5818, MLL5819 and MLL6650

1 AMP SCHOTTKY RECTIFIERS

Description / Features

- SCHOTTKY BARRIER RECTIFIER
- GUARD RING PROTECTION
- LOW FORWARD VOLTAGE
- HIGH CURRENT CAPABILITY
- EXTREMELY FAST SWITCHING TIME
- PENDING QUALIFICATION TO NEW MIL-S-19500/586

Maximum Ratings

Storage Temperature (T_{STG}): -65°C to +150°C

Operating Junction Temperature (T_J): -65°C to +150°C

Operating End Cap Temperature (T_{EC}): -65°C to +125°C

Maximum Thermal Resistance ($R_{\theta JEC}$): 45°C/W

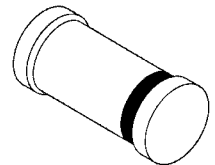
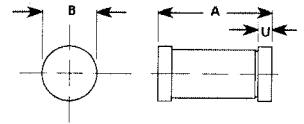


Figure 1

DIM.	MILLIMETERS		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	4.80	5.20	.189	.205
B	2.39	2.66	.094	.105
U	0.41	0.55	.016	.022

DO-213AB

Application

This surface mount series of Schottky 1.0 Amp rated rectifiers provides a metal to silicon barrier rectifier with majority carrier conduction and low forward voltage, using oxide passivation and diffused guard ring protection. They are ideally suited as rectifiers in low-voltage, high-frequency inverters, free wheeling diodes, switch mode power supplies, and polarity protection.

*Electrical Characteristics @ 25° C

MICROSEMI PART NUMBER	MAXIMUM FORWARD VOLTAGE (V_F) (Note 1)			PEAK REVERSE VOLTAGE V_{RRM} (See Note 2) VOLTS	FORWARD CURRENT AVERAGE I_O (See Note 3) A	SURGE CURRENT MAX. I_{FSM} (See Note 4) A	PEAK REVERSE CURRENT I_{RM} (See Note 5) mA	JUNCTION CAPACITANCE TYPICAL $C_j @ V_R = 5V$ pF
	$I_F = 0.1A$	$I_F = 1.0A$	$I_F = 3.0A$					
	VOLTS	VOLTS	VOLTS					
MLL5817	.36	.45	.65	20	1.0	50	1.0	105
MLL5818	.39	.55	.85	30	1.0	50	1.0	70
MLL5819	.39	.55	.85	40	1.0	50	1.0	70
MLL6650	.39	.55	.80	45	1.0	50	1.0	70

Note 1: 300µsec pulse, duty cycle = 2%

Note 2: Derate linearly at 1.8 V/°C above $T_{EC} = 125^\circ C$

Note 3: Derate linearly at 14 mA/°C above $T_{EC} = 80^\circ C$

Note 4: 8.3 msec, 1/2 sine, $T_{EC} = 70^\circ C$

Note 5: I_{RM} tested at V_{RRM}

Mechanical Characteristics

CASE: Hermetically sealed glass with solder contact tabs at each end.

FINISH: All external surfaces are corrosion resistant, readily solderable.

POLARITY:
Banded end is cathode.

THERMAL RESISTANCE:
50°C/Watt typical junction to end caps. (See Power Derating Curve).

MOUNTING POSITION:
Any.

MLL5817, MLL5818, MLL5819 and MLL6650

Figures 1-3 for MLL5817

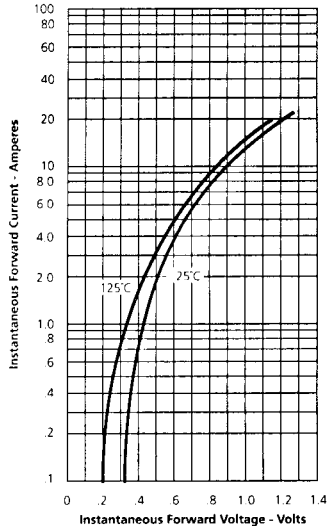


FIGURE 1
Typical Forward Characteristics

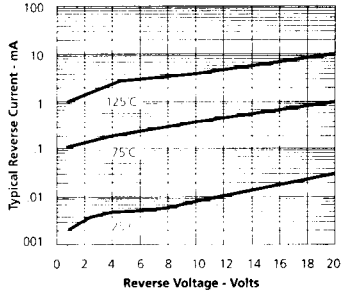


FIGURE 2
Typical Reverse Characteristics

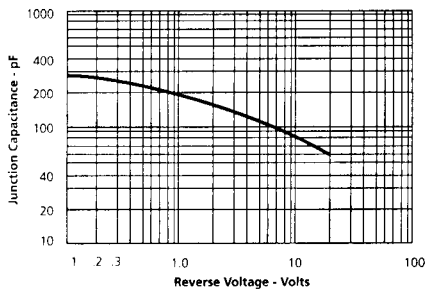


FIGURE 3
Typical Junction Capacitance

Figures 4-6 for MLL5818, MLL5819 & MLL6650

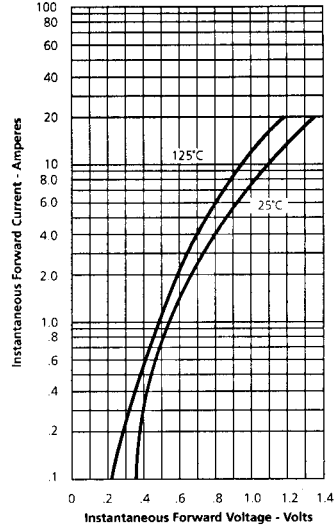


FIGURE 4
Typical Forward Characteristics

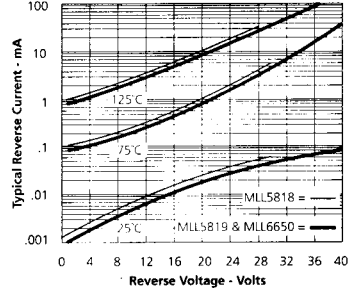


FIGURE 5
Typical Reverse Characteristics

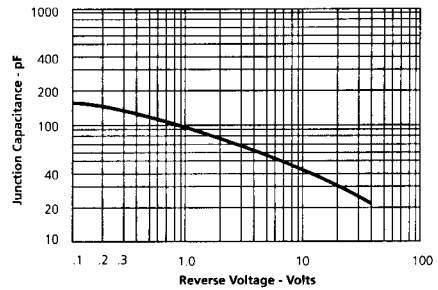


FIGURE 6
Typical Junction Capacitance