

1N5818, 1N5819, LL5818, LL5819

BKC International
Electronics Inc.1000000000
PO Box 1436
Lawrence, MA
USA 01841Telephone (508) 681-0392 • TeleFax (508) 681-9135
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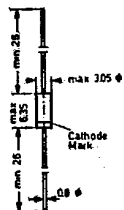
1 Amp Schottky Power Rectifiers

Features:

- Low Forward Voltage Drop
- Fast Switching due to Majority Carrier Conduction
- High Surge Capability
- High Efficiency — Low Power Loss

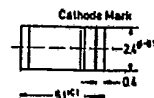
Description:

These Metal on Silicon Barrier Rectifiers employ the latest silicon technology including oxide passivation over epitaxial construction and metal overlap contact. Primary applications are low voltage power supplies, high frequency inverters and converters, surge protection and free wheeling diodes.



Plastic case
58 A 2 according to DIN 41883

Weight approx. 0.4 g
Dimensions in mm



Glass case MELF

Weight approx. 0.25 g
Dimensions in mm

Design Notes:

Schottky rectifier current flow is due to majority carrier conduction. It is not affected by reverse recovery transients as are conventional PN diodes due to stored charge and minority carrier injection.

Schottky rectifier junction capacitance may be considered for purposes of circuit analysis to be an ideal diode in parallel with a variable capacitance.

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Absolute Maximum Ratings

	Symbol	Value	Unit
Working Peak Reverse Voltage	1N5818 LL5818 1N5819 LL5819	V_{RRM}	V
		30 40	V
Peak Repetitive Reverse Voltage ¹⁾	1N5818 LL5818 1N5819 LL5819	V_{PRM}	V
		30 40	V
DC Blocking Voltage	1N5818 LL5818 1N5819 LL5819	V_R	V
		30 40	V
Non-Repetitive Peak Reverse Voltage ¹⁾	1N5818 LL5818 1N5819 LL5819	V_{RSM}	V
		36 48	V
RMS Reverse Voltage	1N5818 LL5818 1N5819 LL5819	$V_{R(RMS)}$	V
		21 28	V
Average Rectified Forward Current at $T_J = 90^\circ\text{C}$, ($R_{\theta JA} = 60\text{ K/W}$) ¹⁾	I_o	1.0	A

Absolute Maximum Ratings (continuation)

	Symbol	Value	Unit
Ambient Temperature at Rated $V_R = (dc)$, $P_{F(AV)} = 0$	1N5818 1N5818 1N5819 1N5819	T_{amb}	$^\circ\text{C}$
		80 75	$^\circ\text{C}$
Non-Repetitive Peak Surge Current (1 Cycle, 60 Hz, $T_J = 70^\circ\text{C}$, Rated Load Conditions)	I_{FSM}	100	A
Operating and Storage Junction Temperature (Reverse Voltage Applied)	T_J, T_S	-65 to +125	$^\circ\text{C}$

¹⁾ These are JEDEC limits. The others are equal to or exceed JEDEC limits.

Characteristics at $T_J = 25^\circ\text{C}$ ¹⁾

	Symbol	Min.	Typ.	Max.	Unit
Instantaneous Forward Voltage ²⁾ at $I_F = 0.1\text{ A}$	1N5818 LL5818 1N5819 LL5819	V_F	—	0.33	V
		V_F	—	0.35	V
	1N5818 LL5818 1N5819 LL5819	V_F	—	0.55	V
		V_F	—	0.60	V
at $I_F = 1.0\text{ A}$	1N5818 LL5818 1N5819 LL5819	V_F	—	0.875	V
		V_F	—	0.9	V
Instantaneous Reverse Current ²⁾ at $V_{RRM}, T_J = 25^\circ\text{C}$ at $V_{RRM}, T_J = 100^\circ\text{C}$	I_R	—	—	1.0	mA
	I_R	—	—	10	mA
Thermal Resistance Junction to Ambient, Vector Pin Mounting, L = 3/8" from Body	$R_{\theta JA}$	—	—	80	K/W

¹⁾ Lead temperature reference is cathode lead 1/32" (0.8 mm) from case.

²⁾ Pulse test: $P_w = 300\text{ }\mu\text{s}$, 2% duty cycle.