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1N5817
1N5818
1N5819

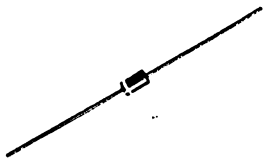
AXIAL LEAD RECTIFIERS

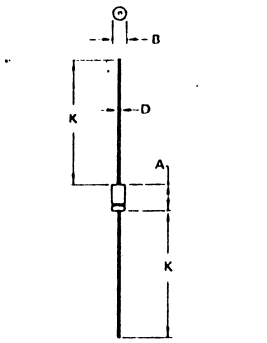
. . . employing the Schottky Barrier principle in a large area metal-to-silicon power diode. State-of-the-art geometry features epitaxial construction with oxide passivation and metal overlap contact. Ideally suited for use as rectifiers in low-voltage, high-frequency inverters, free wheeling diodes, and polarity protection diodes.

- Extremely Low v_F
- Low Stored Charge, Majority Carrier Conduction
- Low Power Loss/High Efficiency

SCHOTTKY BARRIER RECTIFIERS

1 AMPERE
15, 20, 30, 40 VOLTS





DIM	MILLIMETERS MIN	MILLIMETERS MAX	INCHES MIN	INCHES MAX
A	5.97	6.60	0.235	0.260
B	2.79	3.05	0.110	0.120
D	0.76	0.86	0.030	0.034
K	27.94	–	1.100	–

***MAXIMUM RATINGS**

Rating	Symbol		1N5817	1N5818	1N5819	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R		15	20	30	40	V
Non-Repetitive Peak Reverse Voltage	V_{RSM}		15	24	36	48	V
RMS Reverse Voltage	$V_{R(RMS)}$		10	14	21	28	V
Average Rectified Forward Current (2) ($V_{R(equiv)} \leq 0.2\ V_{R(dc)}$, $T_L = 90^oC$, $R_{\theta JA} = 80^oC/W$, P.C. Board Mounting, see Note 2, $T_A = 55^oC$)	I_O	←		1.0		→	A
Ambient Temperature (Rated $V_R(dc)$, $P_{F(AV)} = 0$, $R_{\theta JA} = 80^oC/W$)	T_A		90	85	80	75	°C
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions, half-wave, single phase 60 Hz, $T_L = 70^oC$)	I_{FSM}	←		25 (for one cycle)		→	A
Operating and Storage Junction Temperature Range (Reverse Voltage applied)	T_J, T_{stg}	←		−65 to +125		→	°C
Peak Operating Junction Temperature (Forward Current applied)	$T_{J(pk)}$	←		150		→	°C

***THERMAL CHARACTERISTICS** (Note 2)

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	80	°C/W

***ELECTRICAL CHARACTERISTICS** ($T_L = 25^oC$ unless otherwise noted) (2)

Characteristic	Symbol	1N5817	1N5818	1N5819	Unit
Maximum Instantaneous Forward Voltage (1) ($i_F = 0.1$ A) ($i_F = 1.0$ A) ($i_F = 3.0$ A)	v_F	 0.320 0.450 0.750	 0.330 0.550 0.875	 0.340 0.600 0.900	V
Maximum Instantaneous Reverse Current @ Rated dc Voltage (1) ($T_L = 25^oC$) ($T_L = 100^oC$)	i_R	 1.0 10	 1.0 10	 1.0 10	mA

(1) Pulse Test: Pulse Width = 300 μs, Duty Cycle = 2.0%.
(2) Lead Temperature reference is cathode lead 1/32" from case.
*Indicates JEDEC Registered Data for 1N5817-19.

MECHANICAL CHARACTERISTICS

CASE . . . . . Transfer molded plastic
FINISH. . . . . All external surfaces corrosion-resistant and the terminal leads are readily solderable
POLARITY . . . . . Cathode indicated by polarity band
MOUNTING POSITIONS . . . . . Any
SOLDERING . . . . . 220°C 1/16" from case for ten seconds

Quality Semi-Conductors