DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

1N5059-1N5062

STANDARD AVALANCHE DIODE

FEATURES

- Available as “HR” (high reliability) screened per MIL-PRF-19500, JANTX level. Add “HR” suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding “-PBF” suffix.

MAXIMUM RATINGS

Parameter	Test condition	Sub type	Symbol	Value	Unit
Reverse voltage = repetitive peak reverse voltage		1N5059	$V_R = V_{RRM}$	200	V
		1N5060		400	
		1N5061		600	
		1N5062		800	
Peak forward surge current	t_p = 10ms, half sinewave		I_{FSM}	50	A
Average forward current	R_{thJA} = 45 K/W, T_{amb} = 50°C		I_{FAV}	2	A
	R_{thJA} = 100 K/W, T_{amb} = 75°C			0.8	
Junction and storage temperature range			T_J, T_{stg}	-55 to +175	°C
Maximum pulse energy in avalanche mode, non repetitive (inductive load switch off)	$I_{(BR)R}$ = 1 A, inductive load		E_R	20	mJ
Junction ambient	Lead length l = 10mm, T_L = constant		R_{thJA}	45	K/W
	On PC board with spacing 25 mm			100	

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Parameter	Test condition	Sub type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F = 1A		V_F			1	V
	I_F = 2.5A					1.15	
Reverse current	$V_R = V_{RRM}$		I_R			1	µA
	$V_R = V_{RRM}$, T_J = 100°C					10	
	$V_R = V_{RRM}$, T_J = 150°C					100	
Reverse breakdown voltage	I_R = 100µA	1N5059	$V_{(BR)R}$	225		1600	V
		1N5060		450			
		1N5061		650			
		1N5062		900			
Reverse recovery time	I_F = 0.5A, I_R = 1A, I_R = 0.25A		t_{rr}			4	µs
Diode capacitance	V_R = 0 V, f = 1 MHz		C_D		40		pF

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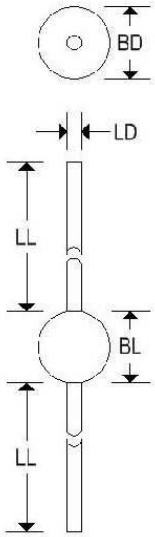
MECHANICAL CHARACTERISTICS

Case	SOD-57
Marking	Body painted, alpha numeric
Polarity	Cathode band



	SOD-57			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	-	0.142	-	3.600
BL	-	0.157	-	4.000
LD	-	0.032	-	0.820
LL	1.024	-	26.000	-

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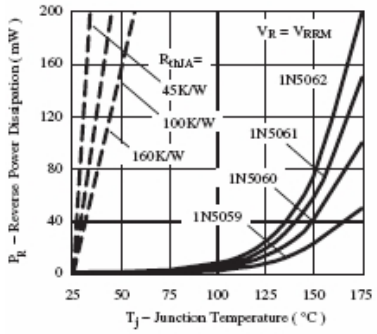
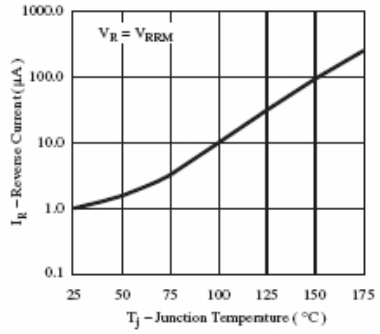
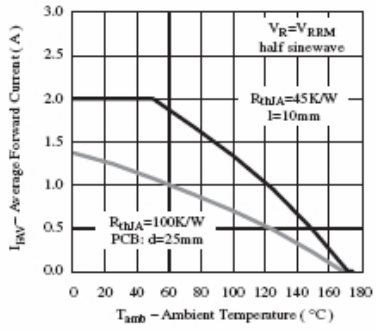


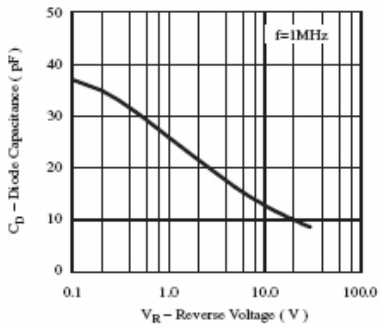
Max. Reverse Power Dissipation vs. Junction Temperature



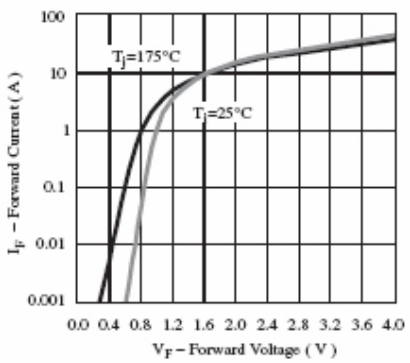
Max. Reverse Current vs. Junction Temperature



Max. Average Forward Current vs. Ambient Temperature



Typ. Diode Capacitance vs. Reverse Voltage



Max. Forward Current vs. Forward Voltage