DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

BY448, BY458

STANDARD RECOVERY RECTIFIERS

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

Parameters	Test Conditions	Type	Symbol	Value	Unit
Reverse voltage		BY448	$V_R = V_{RRM}$	1500	V
		BY458		1200	
Peak forward surge current	t_p = 10ms, half sine wave		I_{FSM}	30	A
Average forward current			I_{FAV}	2	A
Non repetitive reverse avalanche energy	$I_{(BR)R}$ = 0.4A		E_R	10	mJ
Junction temperature			T_J	140	°C
Storage temperature range			T_{STG}	-55 to +175	°C
Junction ambient	I = 10mm, T_L = constant		R_{thJA}	45	K/W
Junction ambient	On PC board with spacing 25mm		R_{thJA}	100	K/W

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

Parameter	Test Conditions	Symbol	Maximum	Unit
Forward voltage	I_F = 3A	V_F	1.6	V
Reverse current	$V_R = V_{RRM}$	I_R	3	µA
	$V_R = V_{RRM}$, T_J = 140°C	I_R	140	µA
Total reverse recovery time	I_F = 1A, $-d_{iF}/dt$ = 0.05A/µs	t_{rr}	20	µs
Reverse recovery time	I_F = 0.5A, I_R = 1A, I_R = 0.25A	t_{rr}	2	µs

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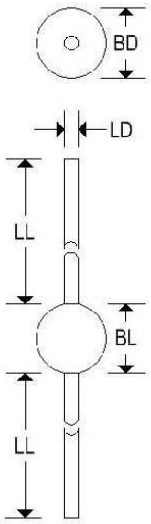
MECHANICAL CHARACTERISTICS

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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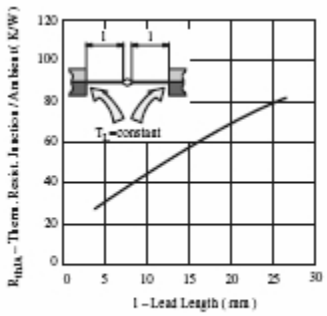
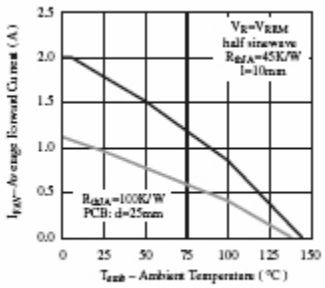
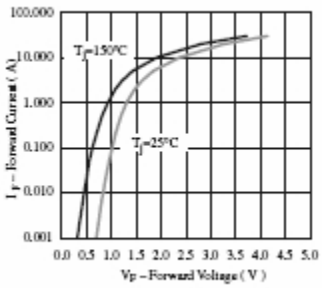


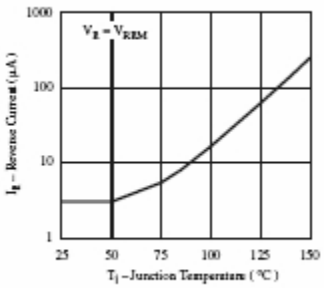
Typ. Thermal Resistance vs. Lead Length



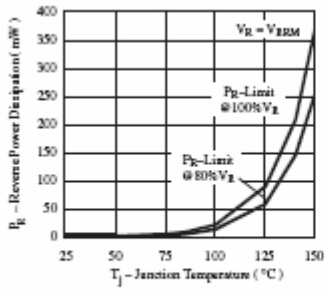
Max. Average Forward Current vs. Ambient Temperature



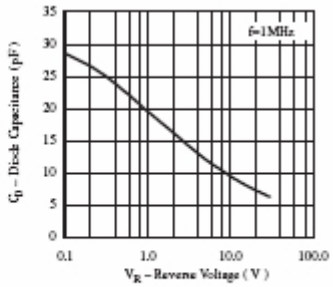
Forward Current vs. Forward Voltage



Reverse Current vs. Junction Temperature



Max. Reverse Power Dissipation vs. Junction Temperature



Diode Capacitance vs. Reverse Voltage