DIGITRON SEMICONDUCTORS

BYV27-50 – BYV27-600

ULTRA FAST AVALANCHE SINTERGLASS DIODE

MAXIMUM RATINGS (T_{amb} = 25°C unless otherwise specified)

Parameter	Test Condition	Part	Symbol	Value	Unit
Peak reverse voltage, non-repetitive		BYV27-50	V_{RSM}	55	V
		BYV27-100		110	
		BYV27-150		165	
		BYV27-200		220	
		BYV27-300		330	
		BYV27-400		440	
		BYV27-500		560	
		BYV27-600		675	
Reverse voltage = repetitive peak reverse voltage		BYV27-50	$V_R = V_{RRM}$	50	V
		BYV27-100		100	
		BYV27-150		150	
		BYV27-200		200	
		BYV27-300		300	
		BYV27-400		400	
		BYV27-500		500	
		BYV27-600		600	
Peak forward surge current	t_p = 10ms, half-sine wave		I_{FSM}	50	A
Repetitive peak forward current			I_{FRM}	15	A
Average forward current			I_{FAV}	2	A
Pulse energy in avalanche mode, non repetitive (inductive load switch off)	$I_{(BR)}$ = 1A, T_J = 175°C		E_R	20	mJ
Junction and storage temperature range			T_J, T_{STG}	-55 to +175	°C
Junction ambient	l = 10mm, T_L = constant		R_{thJA}	45	K/W
	On PC board with spacing 25mm		R_{thJA}	100	K/W

ELECTRICAL CHARACTERISTICS

Parameter	Test Condition	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F = 3A	V_F			1.07	V
	I_F = 3A, T_J = 175°C				0.88	
Reverse current	$V_R = V_{RRM}$	I_R			1	µA
	V_{RSM}				100	
	$V_R = V_{RRM}$, T_J = 165°C				150	
Reverse recovery time	I_F = 0.5A, I_R = 1A, I_R = .25A	t_{rr}			25	ns

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BYV27-50 – BYV27-600

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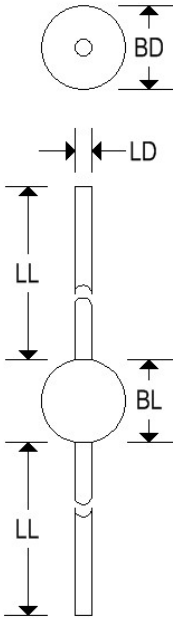
MECHANICAL CHARCTERISTICS

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	-

Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).
Available as “HR” (high reliability) screened per MIL-PRF-19500, JANTX level. Add “HR” suffix to base part number.

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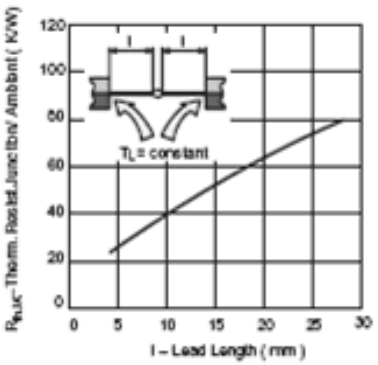
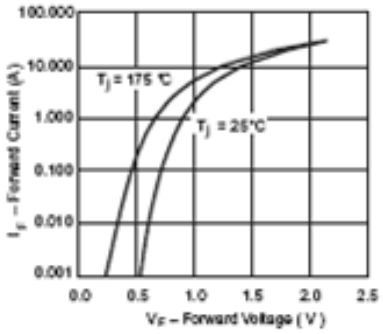
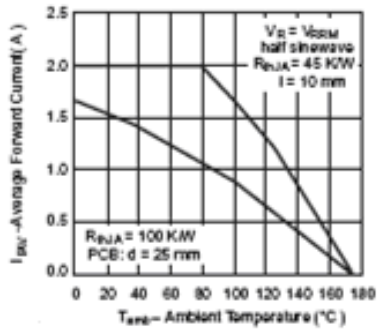


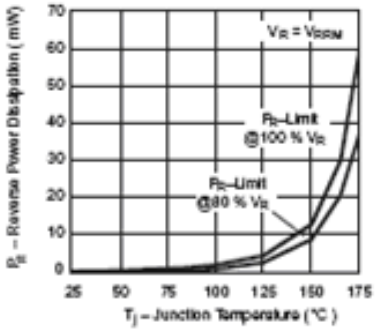
Typ. Thermal Resistance vs. Lead Length



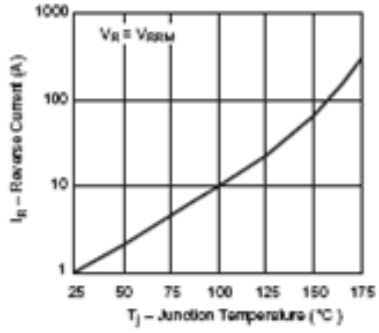
Forward Current vs. Forward Voltage



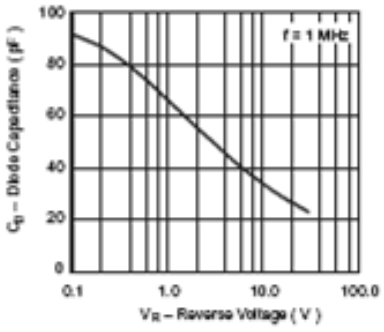
Max. Average Forward Current vs. Ambient Temperature



Max. Reverse Power Dissipation vs. Junction Temperature



erse Current vs. Junction Temperature



Diode Capacitance vs. Reverse Voltage

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