

# DIGITRON SEMICONDUCTORS

BYV27-50 – BYV27-600

ULTRA FAST AVALANCHE  
SINTERGLASS DIODE

## MAXIMUM RATINGS ( $T_{amb} = 25^{\circ}\text{C}$ 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	$t_p = 10\text{ms}$ , 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)	$I_{(BR)} = 1\text{A}$ , $T_J = 175^{\circ}\text{C}$		$E_R$	20	mJ
Junction and storage temperature range			$T_J, T_{STG}$	-55 to +175	$^{\circ}\text{C}$
Junction ambient	$l = 10\text{mm}$ , $T_L = \text{constant}$		$R_{thJA}$	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	$I_F = 3\text{A}$	$V_F$			1.07	V
	$I_F = 3\text{A}$ , $T_J = 175^{\circ}\text{C}$				0.88	
Reverse current	$V_R = V_{RRM}$	$I_R$			1	$\mu\text{A}$
	$V_{RSM}$				100	
	$V_R = V_{RRM}$ , $T_J = 165^{\circ}\text{C}$				150	
Reverse recovery time	$I_F = 0.5\text{A}$ , $I_R = 1\text{A}$ , $I_R = .25\text{A}$	$t_{rr}$			25	ns

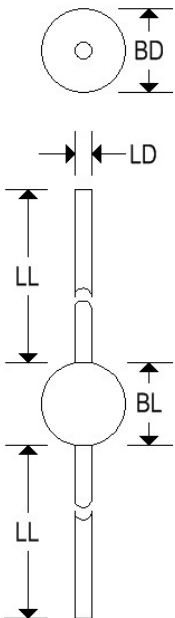
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## MECHANICAL CHARACTERISTICS

<b>Case</b>	SOD-57
<b>Marking</b>	Body painted, alpha numeric
<b>Polarity</b>	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	-

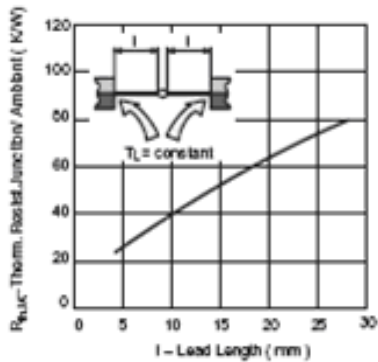
Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).

Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.

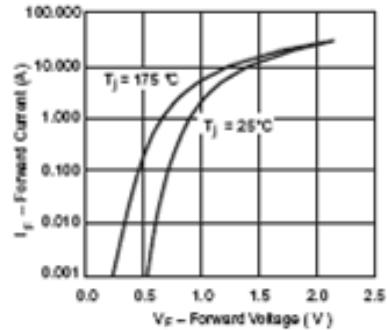
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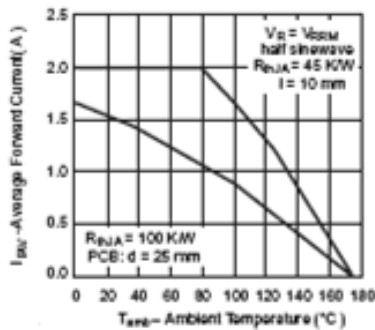
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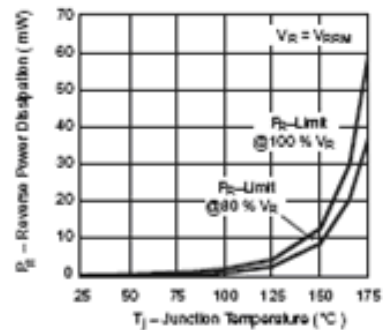
Typ. Thermal Resistance vs. Lead Length



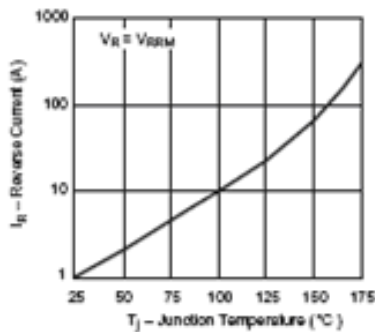
Forward Current vs. Forward Voltage



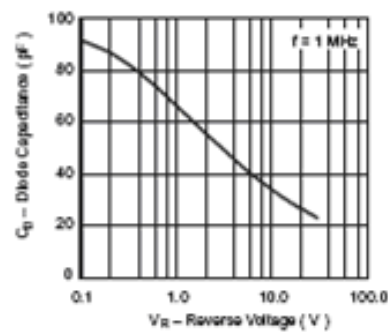
Max. Average Forward Current vs. Ambient Temperature



Max. Reverse Power Dissipation vs. Junction Temperature



Reverse Current vs. Junction Temperature



Diode Capacitance vs. Reverse Voltage