

# DIGITRON SEMICONDUCTORS

BYV28-50 – BYV28-600

ULTRA FAST SILICON RECTIFIERS

## MAXIMUM RATINGS ( $T_J = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Test Condition	Part	Symbol	Value	Unit
Peak reverse voltage, non-repetitive		BYV28-50	$V_{RSM}$	55	V
		BYV28-100		110	
		BYV28-150		165	
		BYV28-200		220	
		BYV28-300		330	
		BYV28-400		440	
		BYV28-500		560	
		BYV28-600		675	
Reverse voltage = repetitive peak reverse voltage		BYV28-50	$V_R = V_{RRM}$	50	V
		BYV28-100		100	
		BYV28-150		150	
		BYV28-200		200	
		BYV28-300		300	
		BYV28-400		400	
		BYV28-500		500	
		BYV28-600		600	
Peak forward surge current	$t_p = 10\text{ms}$ , half-sine wave		$I_{FSM}$	90	A
Repetitive peak forward current			$I_{FRM}$	25	A
Average forward current			$I_{FAV}$	3.5	A
Pulse energy in avalanche mode, non repetitive (inductive load switch off)	$I_{(BR)R} = 0.6\text{A}$ , $T_J = 175^\circ\text{C}$		$E_R$	20	mJ
Junction and storage temperature range			$T_J, T_{STG}$	-65 to +175	$^\circ\text{C}$
Junction ambient	$l = 10\text{mm}$ , $T_L = \text{constant}$		$R_{thJA}$	25	K/W
	On PC board with spacing 37.5 mm		$R_{thJA}$	70	K/W

## ELECTRICAL CHARACTERISTICS ( $T_J = 25^\circ\text{C}$ )

Parameter	Test Condition	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F = 5\text{A}$	$V_F$			1.1	V
	$I_F = 5\text{A}$ , $T_J = 175^\circ\text{C}$				0.89	
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	$I_F = 0.5\text{A}$ , $I_R = 1\text{A}$ , $i_R = .25\text{A}$	$t_{rr}$			30	ns

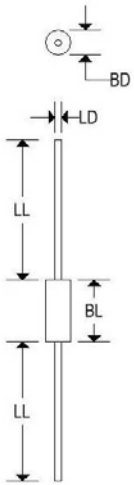
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## MECHANICAL CHARACTERISTICS

Case	SOD-64
Marking	Body painted, alpha numeric
Polarity	Cathode band



	SOD-64			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.169	0.250	4.300	6.350
BL	-	0.300	-	7.620
LD	0.048	0.053	1.219	1.350
LL	1.024	1.102	26.000	28.000

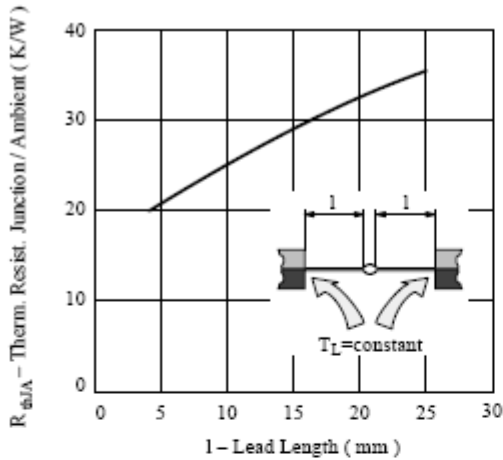
Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).

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

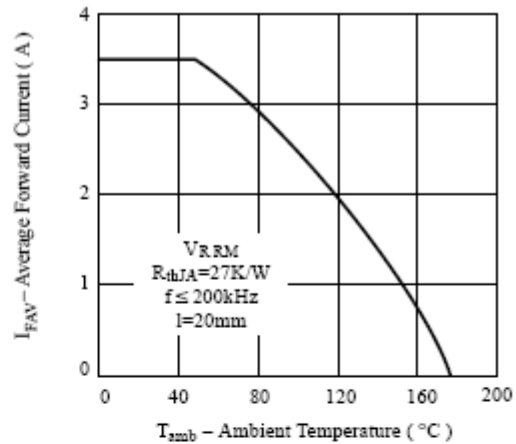
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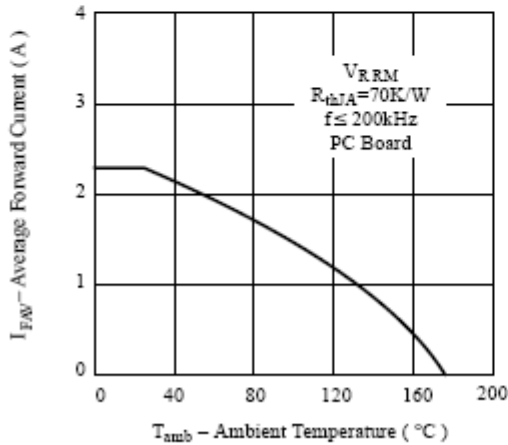
ULTRA FAST SILICON RECTIFIERS



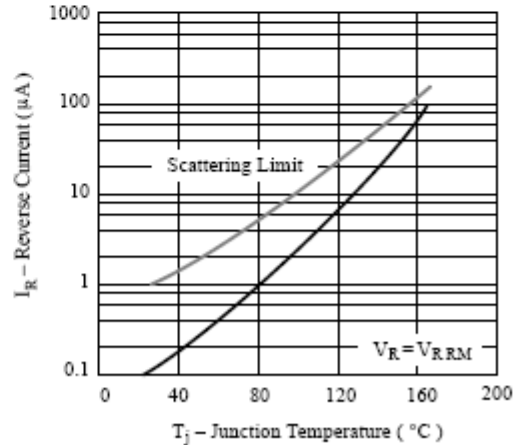
Max. Thermal Resistance vs. Lead Length



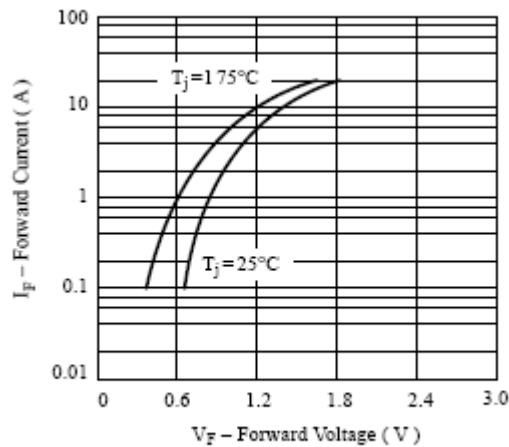
Max. Average Forward Current vs. Ambient Temperature



Max. Average Forward Current vs. Ambient Temperature



Reverse Current vs. Junction Temperature



Max. Forward Current vs. Forward Voltage