

1N5415-1N5420

FAST 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. Part numbers listed indicate a tolerance of $\pm 20\%$ with guaranteed limits on only, VZ, IR and

MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Junction and storage temperature range		T_J, T_{stg}	-65 to +175	°C
Thermal resistance junction to lead ⁽¹⁾		$R_{\theta JL}$	22	°C/W
Forward surge current @ 8.3ms half-sine		I_{FSM}	80	Amps
Average rectified forward current ⁽⁴⁾	@ $T_A = 55^\circ\text{C}$ @ $T_A = 100^\circ\text{C}$	$I_O^{(2,3)}$ $I_O^{(3)}$	3 2	Amps
Working peak reverse voltage	1N5415 1N5416 1N5417 1N5418 1N5419 1N5420	V_{RWM}	50 100 200 400 500 600	Volts
Maximum reverse recovery time ⁽⁵⁾	1N5415 1N5416 1N5417 1N5418 1N5419 1N5420	t_{rr}	150 150 150 150 250 400	ns
Solder temperature @ 10s		T_{SP}	260	°C

Note 1: At 3/8" lead length from body

Note 2: Derate linearly at 22mA/°C for $55^\circ\text{C} \leq T_A \leq 100^\circ\text{C}$.

Note 3: Above $T_A = 100^\circ\text{C}$, derate linearly at 26.7 mA/°C to zero at $T_A = 175^\circ\text{C}$.

Note 4: These ambient temperature ratings are for PC boards where thermal resistance from mounting point to ambient is sufficiently controlled where $T_{J(max)}$ does not exceed 175°C .

Note 5: $I_F = 0.5\text{A}$, $I_{RM} = 1\text{A}$, $I_{R(REQ)} = 0.250\text{A}$.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Part number	Minimum Reverse Breakdown Voltage $V_{BR} @ 50\mu\text{A}$	Forward Voltage $V_F @ 9\text{A}$		Maximum Reverse Current $I_R @ V_{RWM}$		Capacitance $C @ V_R = 4\text{V}$
		Min.	Max.	25°C	100°C	
1N5415	55V	0.6V	1.5V	1.0μA	20μA	550pF
1N5416	110V					430pF
1N5417	220V					250pF
1N5418	440V					165pF
1N5419	550V					140pF
1N5420	660V					120pF



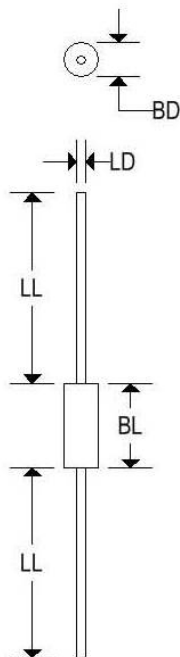
High-reliability discrete products
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MECHANICAL CHARACTERISTICS

Case:	Digi B
Marking:	Body painted, alpha-numeric
Polarity:	Cathode band



	Digi B			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	-	0.142	-	3.607
BL	-	0.250	-	6.350
LD	0.038	0.042	0.965	1.067
LL	0.975	-	24.765	-

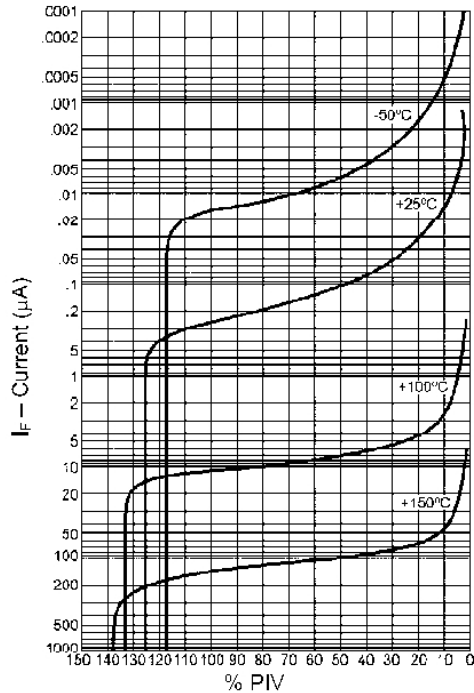


FIGURE 1
Typical Reverse Current vs. PIV

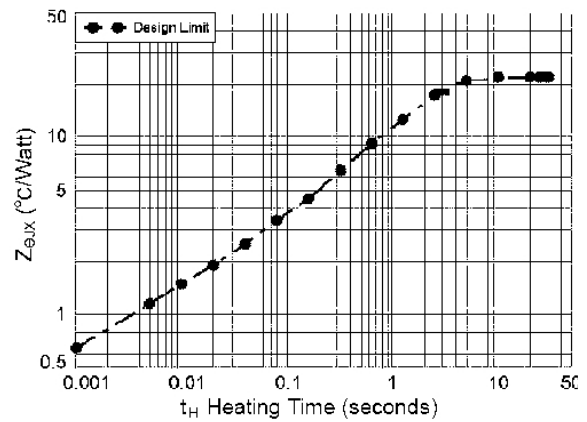


FIGURE 2
Maximum Thermal Impedance

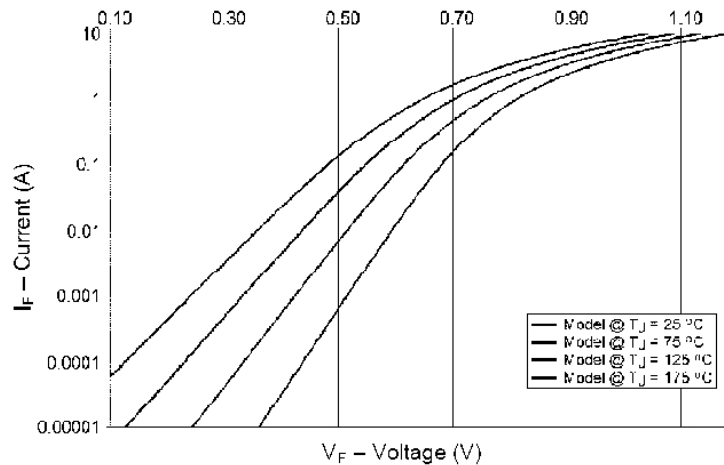


FIGURE 3
Typical Forward Current vs. Forward Voltage