DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

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 ±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°C @ T_A = 100°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°C ≤ T_A ≤ 100°C.
Note 3: Above T_A = 100°C, derate linearly at 26.7 mA/°C to zero at T_A = 175°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 = 0.5A, I_{RM} = 1A, $I_{R(REC)}$ = 0.250A.

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

Part number	Minimum Reverse Breakdown Voltage V_{BR} @ 50µA	Forward Voltage V_F @ 9A		Maximum Reverse Current I_R @ V_{RWM}		Capacitance C @ V_R = 4V
		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

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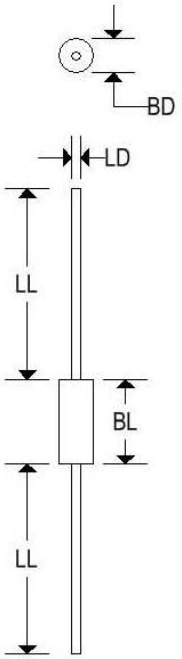
MECHANICAL CHARACTERISTICS

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	-

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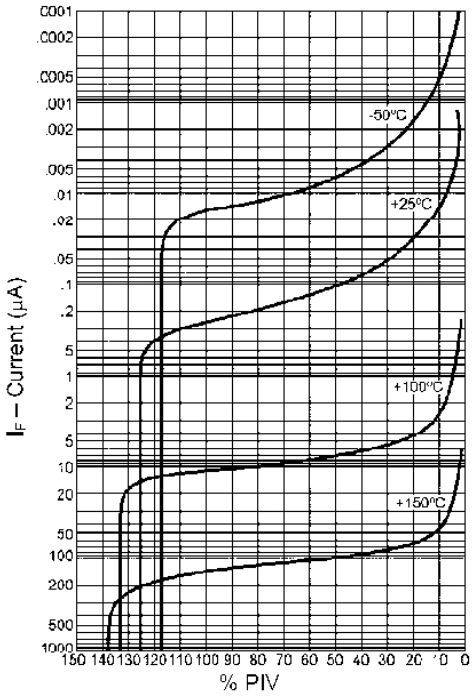

FIGURE 1
Typical Reverse Current vs. PIV

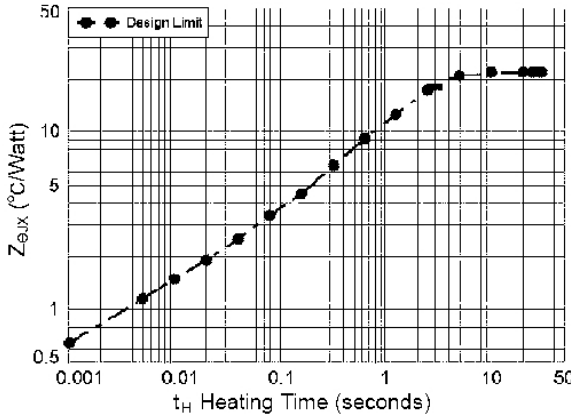

FIGURE 2
Maximum Thermal Impedance

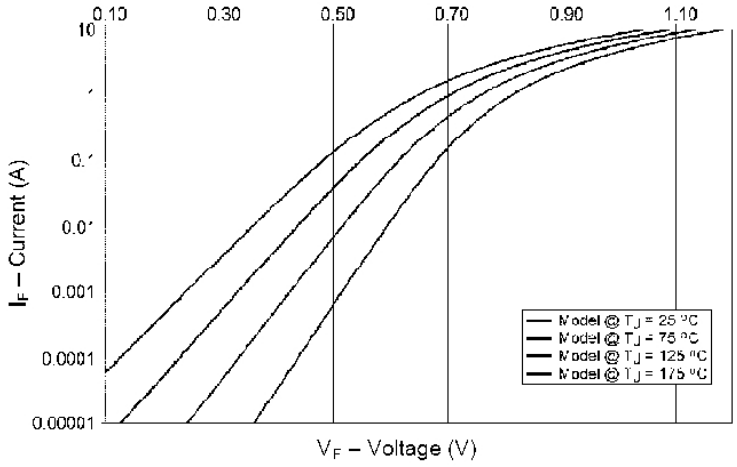

FIGURE 3
Typical Forward Current vs. Forward Voltage