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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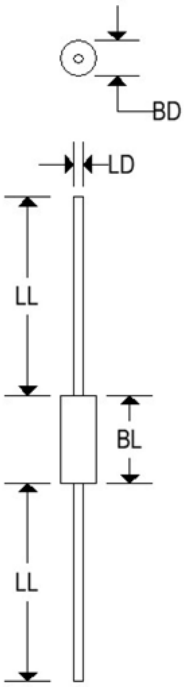
MECHANICAL CHARACTERISTICS

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



	Digi B			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.115	0.142	2.921	3.607
BL	0.130	0.260	3.302	6.604
LD	0.036	0.042	0.914	1.067
LL	1.000	1.500	25.400	38.100

BL includes slugs and uncontrolled area of the leads

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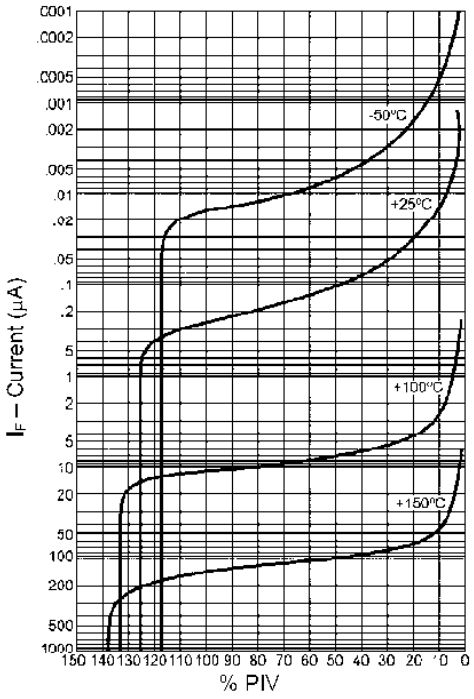

FIGURE 1
Typical Reverse Current vs. PIV

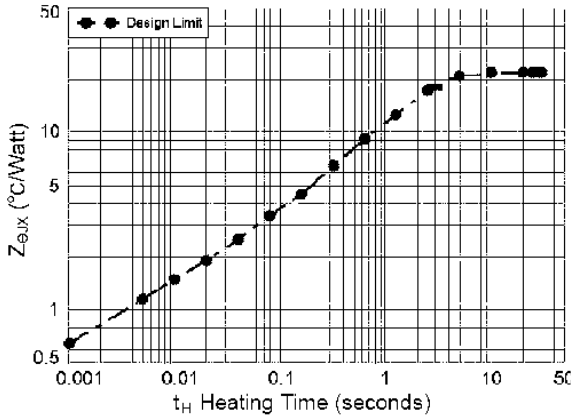

FIGURE 2
Maximum Thermal Impedance

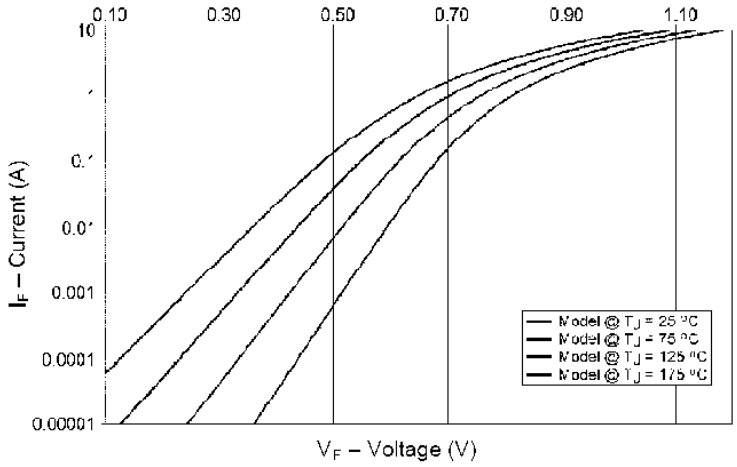

FIGURE 3
Typical Forward Current vs. Forward Voltage