T-03-09

HIGH CONDUCTANCE ULTRA FAST SWITCHING DIODES

1N914A/B • 1N916A/B
1N4148 • 1N4149 • 1N4446
1N4447 • 1N4448 • 1N4449

ABSOLUTE MAXIMUM RATINGS

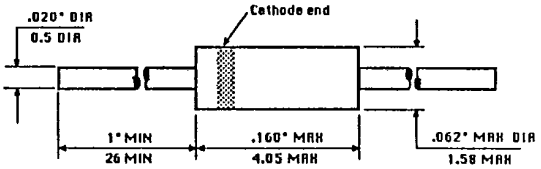
- T_{RR} 4.0 nS
- B_V 100 V (MIN)

Temperatures

Storage Temperature Range	-65 °C to +200 °C
Maximum Junction Operating Temperature	+175 °C
Lead Temperature	+260 °C

Power Dissipation

Maximum Total Power Dissipation at 25 °C Ambient	500mW
Linear Power Derating Factor (from 25 °C)	3.33 mW/ °C



DO-35 PACKAGE

Maximum Voltage and Currents

WIV	Working Inverse Voltage	75V
I_o	Average Rectified Current	200mA
I_F	DC & Forward Current	300mA
i_F	Recurrent Peak Forward Current	400mA
i_F (surge)	Peak Forward Surge Current	
	Pulse Width = 1.0 µs	4.0 A
	Pulse Width = 1.0 s	1.0 A

ELECTRICAL CHARACTERISTICS (25 °C Ambient Temperature unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
V_F	Forward Voltage				
	1N914B, 1N4448	0.62	0.72	V	I_F = 5.0 mA
	1N916B, 1N4449	0.63	0.73	V	I_F = 5.0 mA
	1N914, 1N916, 1N4148, 1N4149		1.0	V	I_F = 10 mA
	1N914A, 1N916A, 1N4446, 1N4447		1.0	V	I_F = 20 mA
	1N916B, 1N4449		1.0	V	I_F = 30 mA
	1N914B, 1N4448		1.0	V	I_F = 100 mA
I_R	Reverse Current		25	nA	V_R = 20 V
			50	µA	V_R = 20 V, T_A = 150 °C
			5.0	µA	V_R = 75 V
B_V	Breakdown Voltage	100		V	I_R = 100 µA
		75		V	I_R = 5.0 µA
T_{RR}	Reverse Recovery Time		4.0	ns	I_F = 10 mA, V_R = 6.0 V R_L = 100 Ω Rec. to 1.0 mA
C	Capacitance				
	1N914, 1N914A, 1N914B, 1N4148, 1N4446, 1N4447		4.0	pF	V_R = 0, f = 1 MHz
	1N916, 1N916A, 1N916B, 1N4149, 1N4448, 1N4449		2.0	pF	V_R = 0, f = 1 MHz
V_{FR}	Peak Forward Recovery Voltage				
	1N914, 1N916, 1N914B, 1N916B, 1N4448, 1N4449		2.5	V	50 mA Peak Square Wave 0.1 µs pulse width 5 kHz - 100 kHz rep. rate
RE	Rectification Efficiency				
	1N914A, 1N914B, 1N916A, 1N916B	45		%	2.0 V rms, f = 100 MHz

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