

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

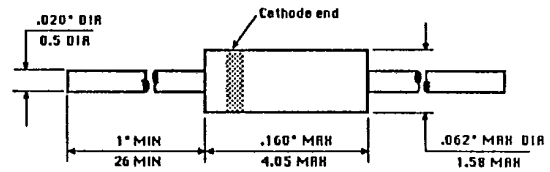
Storage Temperature Range	-65 °C to +200 °C
Maximum Junction Operating Temperature	+175 °C
Lead Temperature	+260 °C

Power Dissipation

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

Maximum Voltage and Currents

V_{IV} Working Inverse Voltage	75V
I_O Average Rectified Current	200mA
I_F DC & Forward Current	300mA
I_{FR} Recurrent Peak Forward Current	400mA
I_{FS} (surge) Peak Forward Surge Current	
Pulse Width = 1.0 μ s	4.0 A
Pulse Width = 1.0 s	1.0 A



DO-35 PACKAGE

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	μ A	$V_R = 20$ V, $T_A = 150$ °C	
			5.0	μ A	$V_R = 75$ V	
B_V	Breakdown Voltage	100		V	$I_R = 100$ μ A	
		75		V	$I_R = 5.0$ μ A	
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		2.5	V	50 mA Peak Square Wave 0.1 μ s pulse width 5 kHz - 100 kHz rep. rate	
RE	Rectification Efficiency		45	%	2.0 V rms, $f = 100$ MHz	

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