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1N3062 • 1N3063 • 1N3064 • 1N4305 • 1N4454

ULTRA FAST LOW CAPACITANCE
DIFFUSED SILICON PLANAR* DIODES

- C ... 2.0 pF @ $V_R = 0$, $f = 1.0$ MHz
- t_{rr} ... 4.0 ns @ $I_f = 10$ mA, $R_f = 10$ mA, $V_f = 1.0$ V
- BV ... 75 V (MIN)

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$) (Note 1)

Maximum Temperatures		1N3062 1N3063	1N3064	1N4454	1N4305
Storage Temperature		-65°C to +200°C	-65°C to +175°C	-65°C to +175°C	-65°C to +200°C
Operating Temperature		-65°C to +175°C	-65°C to +150°C	-65°C to +150°C	-65°C to +150°C
Maximum Power Dissipation					
Total Dissipation		250 mW	250 mW	500 mW	500 mW
Linear Derating Factor		1.67 mW/°C	2.0 mW/°C	4.0 mW/°C	2.85 mW/°C
Maximum Voltages and Currents					
WIV	Working Inverse Voltage	50 V	50 V	40 V	75 V
I_O	Average Rectified Current	75 mA	75 mA	200 mA	
I_F	Forward Current Steady State dc	115 mA	115 mA	400 mA	
i_f	Recurrent Peak Forward Current	225 mA	225 mA	600 mA	
i_f (surge)	Peak Forward Surge Current				
	Pulse Width = 1.0 s	500 mA	500 mA	1.0 A	
	Pulse Width = 1.0 μ s	2.0 A	2.0 A	4.0 A	

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

SYMBOL	CHARACTERISTIC	MIN.	MAX.	UNITS	TEST CONDITIONS
V_F	Forward Voltage	0.700	1.0	V	$I_F = 20$ mA
			0.850	V	$I_F = 10$ mA
			0.610	V	$I_F = 2.0$ mA
			0.550	V	$I_F = 1.0$ mA
			0.505	V	$I_F = 250$ μ A
I_R	Reverse Current	75	1.0	V	$I_F = 10$ mA
			0.1	μ A	$V_R = 50$ V
I_R	Reverse Current		100	μ A	$V_R = 50$ V, $T_A = 150^\circ\text{C}$
BV	Breakdown Voltage			V	$I_R = 5.0$ μ A
t_{rr}	Reverse Recovery Time	2.0		ns	$I_f = 10$ mA, $V_r = 6.0$ V, $R_L = 100$ Ω
				ns	$I_f = I_r = 10$ mA, $R_L = 100$ Ω , $V_r = 1.0$ V
				ns	$I_f = I_r = 10$ mA, $R_L = 100$ Ω , $V_r = 1.0$ V
				ns	$I_f = I_r = 10$ mA, $R_L = 100$ Ω , $V_r = 1.0$ V
				ns	$I_f = I_r = 10$ mA, $R_L = 100$ Ω , $V_r = 1.0$ V
C	Capacitance	2.0	1.0	pF	$V_R = 0$, $f = 1.0$ MHz
				pF	$V_R = 0$, $f = 1.0$ MHz
				pF	$V_R = 0$, $f = 1.0$ MHz
				pF	$V_R = 0$, $f = 1.0$ MHz
				pF	$V_R = 0$, $f = 1.0$ MHz
RE	Rectification Efficiency	45		%	$f = 1.0$ MHz
$\Delta V_F/^\circ\text{C}$	Forward Voltage Temperature Coefficient	1.8		mV/°C	
				mV/°C	
				mV/°C	
				mV/°C	
				mV/°C	