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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, $R_L = 100 \Omega$, $V_r = 1.0$ 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 +175°C	-65°C to +200°C
Operating Temperature		-65°C to +175°C	-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	500 mW
Linear Derating Factor		1.67 mW/°C	2.0 mW/°C	4.0 mW/°C	4.0 mW/°C	2.85 mW/°C
Maximum Voltages and Currents						
WIV	Working Inverse Voltage	50 V	50 V	40 V	40 V	75 V
I_O	Average Rectified Current	75 mA	75 mA	200 mA	200 mA	200 mA
I_F	Forward Current Steady State dc	115 mA	115 mA	400 mA	400 mA	400 mA
i_f	Recurrent Peak Forward Current	225 mA	225 mA	600 mA	600 mA	600 mA
i_f (surge)	Peak Forward Surge Current					
	Pulse Width = 1.0 s	500 mA	500 mA	1.0 A	1.0 A	1.0 A
	Pulse Width = 1.0 μ s	2.0 A	2.0 A	4.0 A	4.0 A	4.0 A

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

SYMBOL	CHARACTERISTIC	MIN.	MAX.	UNITS	TEST CONDITIONS	
V_F	Forward Voltage	1N3062	1.0	V	$I_F = 20$ mA	
		1N3063	0.700	0.850	V	$I_F = 10$ mA
		1N4305				
			0.610	0.710	V	$I_F = 2.0$ mA
			0.550	0.650	V	$I_F = 1.0$ mA
			0.505	0.575	V	$I_F = 250 \mu$ A
I_R	Reverse Current	1N3064	1.0	V	$I_F = 10$ mA	
		1N4454		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	75		V	$I_R = 5.0 \mu$ A	
t_{rr}	Reverse Recovery Time	1N4305	2.0	ns	$I_f = 10$ mA, $V_r = 6.0$ V, $R_L = 100 \Omega$	
		1N3062				
		1N3063	4.0	ns	$I_f = I_r = 10$ mA, $R_L = 100 \Omega$, $V_r = 1.0$ V	
		1N3064				
		1N4454				
1N4305						
C	Capacitance	1N3062	1.0	pF	$V_R = 0$, $f = 1.0$ MHz	
		1N3063	2.0	pF	$V_R = 0$, $f = 1.0$ MHz	
		1N3064				
		1N4454				
		1N4305				
RE	Rectification Efficiency	45		%	$f = 1.0$ MHz	
$\Delta V_F/^\circ\text{C}$	Forward Voltage Temperature Coefficient	1N3062	1.8		mV/°C	
		1N3063				
		1N3064	3.0		mV/°C	
		1N4454				
		1N4305				