



PS5002LR

ABSOLUTE MAXIMUM RATINGS ( $T_s = 25^\circ\text{C}$ )

Diode			
Reverse Voltage	$V_R$	6	V
Forward Current	$I_F$	50	mA
Power Dissipation	$P_D$	75	mW
Detector			
Supply Voltage	$V_{CC}$	17	V
Low Level Output Current	$I_{OL}$	50	mA
Power Dissipation	$P_C$	250	mW
Storage Temperature	$T_{stg}$	-40 to +100	$^\circ\text{C}$
Operating Temperature	$T_{opt}$	-30 to +85	$^\circ\text{C}$

RECOMMENDED OPERATING CONDITIONS ( $T_s = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Operating Temperature	$T_{opt}$	-10		+60	$^\circ\text{C}$
Supply Voltage	$V_{CC}$	4.5	5	12	V
Forward Current	$I_F$	5		20	mA

ELECTRICAL CHARACTERISTICS ( $T_s = 25^\circ\text{C}$ )

CHARACTERISTIC		SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Diode	Forward Voltage	$V_F$		1.1	1.4	V	$I_F = 5\text{ mA}$
	Reverse Current	$I_R$			10	$\mu\text{A}$	$V_R = 5\text{ V}$
	Junction Capacitance	$C_t$		20		pF	$V = 0, f = 1\text{ MHz}$
Detector	Operating Supply Voltage	$V_{CC}$	4.5		17	V	
	Low Level Output Voltage	$V_{OL}$		0.15	0.4	V	$V_{CC} = 5\text{ V}, I_F = 5\text{ mA}$
	High Level Output Voltage	$V_{OH}$	4.9			V	$I_{OL} = 16\text{ mA}, V_{CC} = 5\text{ V}$
	Low Level Supply Current	$I_{CCL}$		2.5	5	mA	$V_{CC} = 5\text{ V}, I_F = 5\text{ mA}$
	High Level Supply Current	$I_{CCH}$		1	3	mA	$V_{CC} = 5\text{ V}, I_F = 0$
Coupled	Threshold Input Current	$I_{FHL}$			5	mA	$V_{CC} = 5\text{ V}$
	Hysteresis Ratio	$I_{FLH}/I_{FHL}$		0.7			$V_{CC} = 5\text{ V}$
	Propagation Delay Time	$t_{PLH}$		3	9	$\mu\text{s}$	$V_{CC} = 5\text{ V}$ $I_F = 5\text{ mA}$ $R_L = 280\ \Omega$
		$t_{PHL}$		3	9	$\mu\text{s}$	
	Rise Time	$t_r$		100	300	ns	
Fall Time	$t_f$		50	150	ns		

Test Circuit for Switching Time

