P1-LASE PYROELECTRIC PULSED LASER DETECTOR

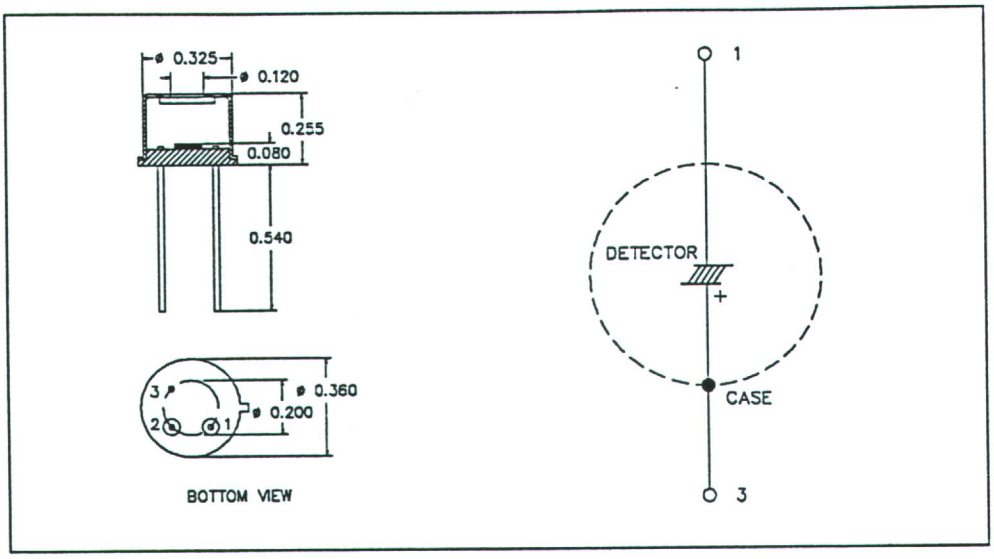
Features

* Rugged $LiTaO_3$ material
* 610°C Curie temperature
* 0.2%/°C temperature stability
* -55°C to +85°C operation

Applications

* Pulsed Laser Joulemeter
* Pulsed Laser Peak Power Detector
* Laser Temporal Detector
* Internal Laser Energy Monitor

Model P1-LASE is a single element lithium tantalate detector mounted in a TO-5 transitor can. It has an integral alumina diffuser to allow use with high peak power lasers. It is ideal for use as an internal pulse laser energy monitor. Simply add a capacitance load to the P1-LASE and calibrate its output in V/mJ. It is also used for laser pulse temporal measurements when terminated with low resistance (i.e., 50 to 100 ohms). Pulse widths in the µsec range can be resolved. Call our Application Engineers for complete details at **(800) 366-4340.**



Performance Specifications

Typical characteristics @ 25°C unless otherwise noted.

Symbol	Parameter	Typ.	Max.	Units	Meas. Conditions
Dia.	Active diameter	2		mm	----
Ri	Current responsivity	0.3		µA/Watt	Without window @ 1.06 µm f ≥ 15 Hz
Cd	Element capacitance	16		pF	f = 1 KHz
D	Dissipation factor	.002	.005	----	f = 1 KHz
R_p	Element resistance	10^{13}		ohms	T < 100°C
f_T	Thermal 3 dB frequency	5	10	Hz	$P_{avg} \leq 100$ mWatts
P_{max} (Avg)	Maximum average power	1		Watt	Without window
	Window: Standard	Alumina		----	----
	Thickness	0.5		mm	----
	Spectral range	0.5 to 5		µm	----

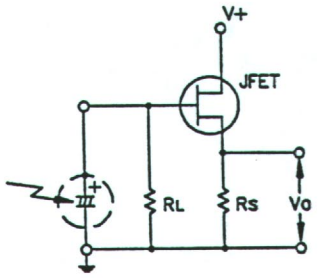


Fig. 1. Voltage Mode Circuit

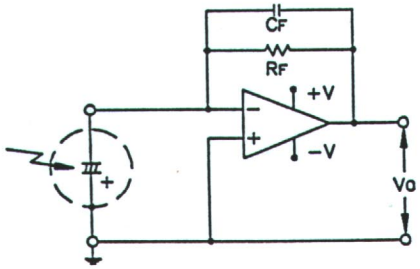


Fig. 2. Current Mode Circuit

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