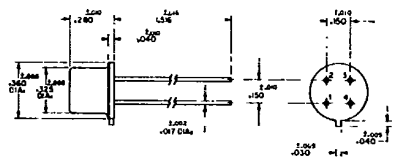
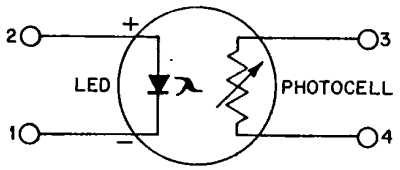
T-41-81

CLM7000
CLM7100
CLM7200

LED-Photoconductor Isolators





This new photomod series combines a photoconductive cell and an LED lamp in a hermetically sealed TO-5 package, for high reliability and long life. The moderate speed of response of the photoconductor eliminates much of the noise transmitted by silicon opto-isolators. This characteristic is especially useful in audio applications. All leads are isolated from the case.

TECHNICAL DATA

LED	CHARACTERISTICS	TEST CONDITIONS	CLM7000 Min.	CLM7000 Typ.	CLM7000 Max.	CLM7100 Min.	CLM7100 Typ.	CLM7100 Max	CLM7200 Min.	CLM7200 Typ.	CLM7200 Max	UNITS
I_{fmax}	Maximum forward current				40.00			40.00			40.00	miliamps
V_f	Forward voltage	I_f = 20.00 mA			2.00			2.00			2.00	volts
I_r	Reverse current	V_f = 3.00 V			100.00			100.00			100.00	microamps
PHOTOCELL V_{max}	Cell voltage				100.00			100.00			100.00	V DC-PAC
P ①	Power dissipation	25°C			100 00			100.00			100.00	milliwatts
C_c	Cell capacitance	I_f = 0 mA		2.00			1.60			1.00		picofarad
PHOTOMOD R_{on} ②	On resistance	I_f = 20 mA			0.60			2.00			5.00	kohms
		I_f = 2.0 mA		3.50			11.00			36.00		kohms
R_{off}	Off resistance	5 sec. after I_f = 0 mA	5.00			10.00			10.00			megohms
T_r ③	Rise time	Time to 63% of fin. cond.		3.50			3.50			3.00		milliseconds
T_d ④	Decay time	Time to 100 kohms		120.00			40.00			10.00		milliseconds
V_{bd}	Isolation voltage		750.00			750.00			750.00			volts DC or PAC
C_i	Isolation capacitance			0.80			0 80			0.80		picofarad
T_c	Temp. coef. (dRc/dT)	I_f ⟩ 5 mA		0.70			0.60			0.60		°o/°C
T_{hd}	Tot. harm dist. @ 1000 Hz	I_f = 20 mA		0 02			0.02			0 02		°o
G	Slope	I_f = 0 2 - 20.0 mA		1.05			1.15			1.15		

Absolute Maximum Ratings:

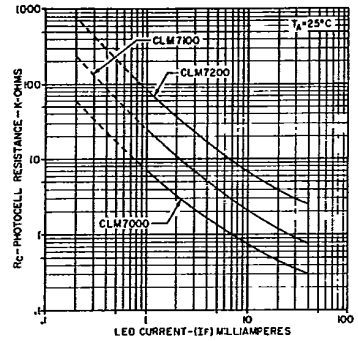
Temperature Storage — 40° to 80°C **Operating — Derate power to 0 to 80°C**

8

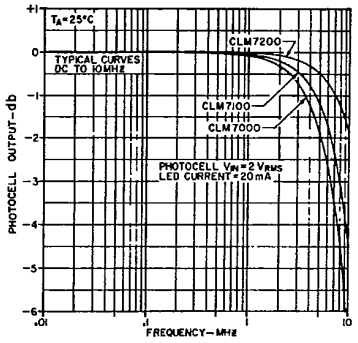
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PC-LED PHOTOMOD SLOPE CHARACTERISTICS

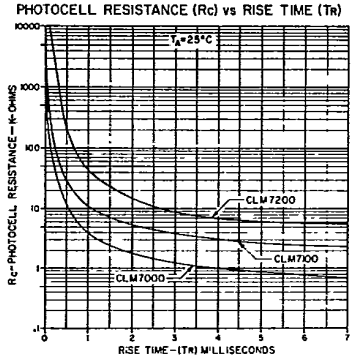
PHOTOCELL RESISTANCE(Rc) vs. LED CURRENT(IF)



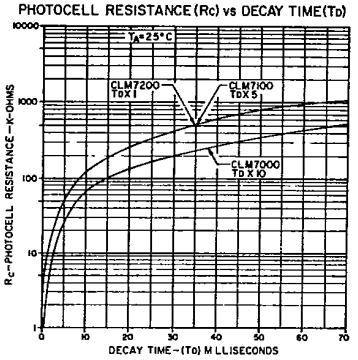
FREQUENCY RESPONSE



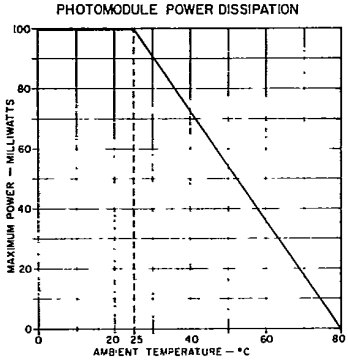
PHOTOCELL RESISTANCE (Rc) vs RISE TIME (TR)



PHOTOCELL RESISTANCE(Rc) vs DECAY TIME(TD)



PHOTOMODULE POWER DISSIPATION



RESPONSE TIME

The t_{RISE} and t_{DECAY} curve is the response time of the module when the lamp current is instantaneously varied from either zero to rated lamp current (t_{RISE}) or rated lamp current to zero (t_{DECAY}).

These curves are representative characteristics. For specific specifications, and application assistance, please contact the factory.

Notes:

(1) P.D. at 25° C case temperature. Derate linearly to 0 at 80° C. Allowable PHOTOMOD dissipation is determined by the photocell temperature which must not exceed 80° C for continuous operation. Lead soldering temp. 260° C, 5 sec. dwell max.

(2) After 24 hours on.

(3) Rise time measured after 24 hours on + 5 seconds off.

(4) Decay time measured from 24 hours on.