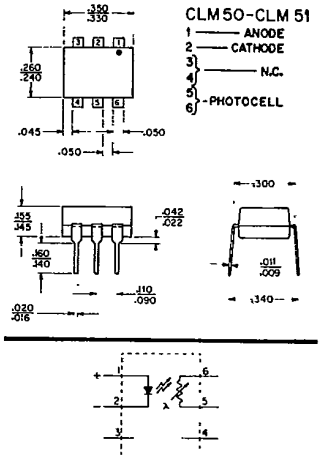
T-41-81

CLM50
CLM51

LED-Photoconductor Dip Isolators



The CLM50 and CLM51 incorporate a GaP LED coupled with a photoconductive cell to provide a D.I.P. opto isolator for both linear and logic functions. Both units provide line voltage output capability of 250V PAC, isolation voltage of 2500V PAC and a minimum Off Resistance of 1 Meg. Controlled resistances are featured at 16mA and 1mA respectively. The units are ideally suited for thyristor control, logic and critical circuitry isolation, remote and supervisory control circuitry. These components are recognized under the Component Program of Underwriters' Laboratories Inc.

TECHNICAL DATA

LED	CHARACTERISTICS	TEST CONDITIONS	CLM50 Min.	CLM50 Typ.	CLM50 Max.	CLM51 Min.	CLM51 Typ.	CLM51 Max.	UNITS
$I_{F\ max.}$	Maximum forward current				40			40	mA
V_F	Forward voltage	I_F = 16 mA		2.0	2.5		2.0	2.5	volts
I_R	Reverse current	V_R = 3V			10			10	μ A
PHOTOCELL V_{MAX}	Cell voltage		250			250			volts DC or PAC
P ①	Power dissipation	25° C			50			50	milliwatts
PHOTOMOD R_{ON} ②	On resistance	I_F = 1mA I_F = 16mA		5K 1.5K	2.5K		1.25K	4.5K	ohms
R_{OFF}	Off resistance	5 sec. after $I_F \rightarrow 0$ 4 VDC on cell	1 Meg.			1 Meg.			ohms
t_R ③	Rise time	Time to 63% of final condition at I_F = 16 mA		500			500		μsec
t_D ④	Decay time	Time to 100K		60			60		milliseconds
V_{BD}	Isolation		2500			2500			volts DC or PAC
dRc/dt	Cell temperature coefficient	$I_F \geq 1$ mA		1			1		%/° C

Absolute Maximum Ratings:

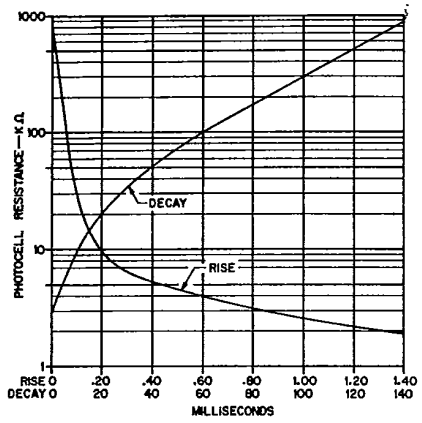
Temperature Storage — 40° to 75°C

Operating — Derate power to 0 at 75°C

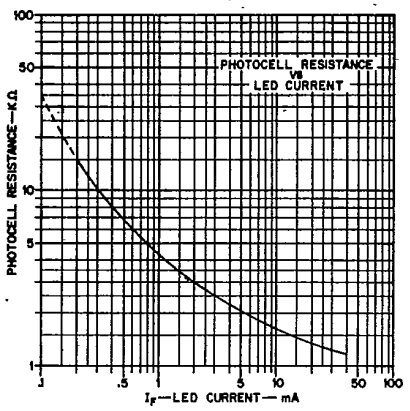
8

PC-LED PHOTOMOD SLOPE CHARACTERISTICS

RESPONSE TIME



RESISTANCE vs. LED CURRENT



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, please contact the factory.

Notes:

(1) P.D. at 25°C case temperature. Derate linearly to 0 at 75°C. Allowable PHOTOMOD dissipation is determined by the photocell temperature which must not exceed 75°C for continuous operation.

(2) After 24 hours on.

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

(4) Decay time measured from 24 hours on.