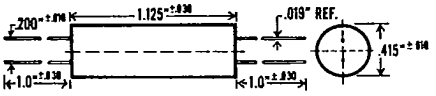
Photomods® Twelve Volt Modules

CLM3012A CLM4012A

- Twelve Volt, 40 Ma Lamp
- Low Impedance, Long Life
- Isolation Voltage 2500V PAC
- No Moving Parts

CLM3012A and CLM4012A



APPLICATIONS

CLM3012A — This module is designed for applications where appropriate lamp power is available. Extremely long lamp life may be obtained by lamp-voltage derating without serious sacrifice of the extraordinarily wide cell resistance span which the unit offers.

Since R_{OFF} exceeds 10^8 ohms, excellent isolation may be achieved in signal commutation circuts.

CLM4012A — This module offers the lowest cell resistance in a stock Photomod®. Even with lamp voltage derating to virtually infinite lamp life, cell (ON) resistance does not exceed 100 ohms.

Applications include low impedance interface switching, remote audio 'squelch' functions, and other such isolated signal 'shorting' circuits.

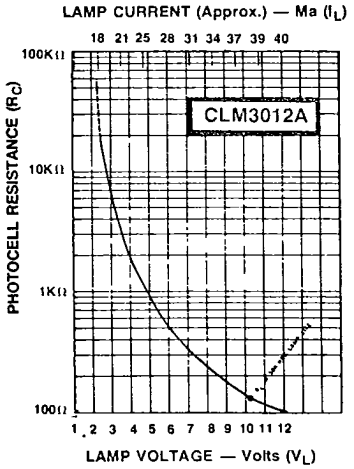
TECHNICAL DATA

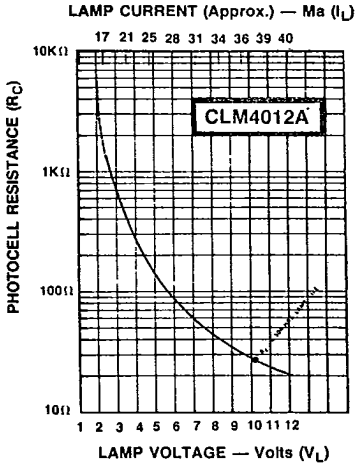
MODULE PART NUMBER	CONTROL LAMP LIFE — 5000 HOURS			CONTROL LAMP LIFE — 50,000 HOURS			① MAXIMUM RISE TIME t_R SECONDS	④ MAXIMUM DECAY TIME t_D SECONDS	⑤ MINIMUM OFF RESISTANCE 10 SECONDS AFTER LAMP TURN-OFF R_D— MEGOHMS
	Rated Lamp Voltage and Current		Output ① Resistance @ Rated Voltage R_C — Ohms Maximum	Lamp Voltage V_L VOLTS	Output ② Resistance @V_L R_{CL}— OHMS				
	V_R VOLTS	I_R MILLIAMPS			Minimum	Maximum			
CLM3012A	12	40	160	10	—	175	.080	.210	100
CLM4012A	12	40	30	10	12	36	.080	.180	1

*Varies from 35Ma to 45Ma

8

PHOTOCELL RESISTANCE-R_C VS LAMP VOLTAGE-V_L & LAMP CURRENT I_L ①





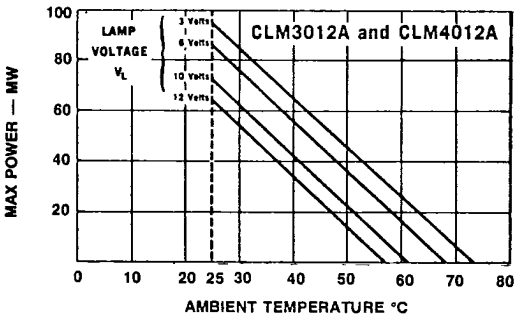
TEMPERATURE AND POWER

Allowable Photomod® power dissipation is a function of the photocell temperature. The following curves exhibit the allowable photocell power dissipation as a function of ambient temperature and lamp voltage.

MAXIMUM RATINGS

PHOTOCELL TEMPERATURE −25°C TO +75°C
CELL SHUNT CAPACITANCE . 5 PICOFARADS
VOLTAGE ACROSS CELL ... 200V — PEAK AC
VOLTAGE ISOLATION ..... 2500V PEAK AC

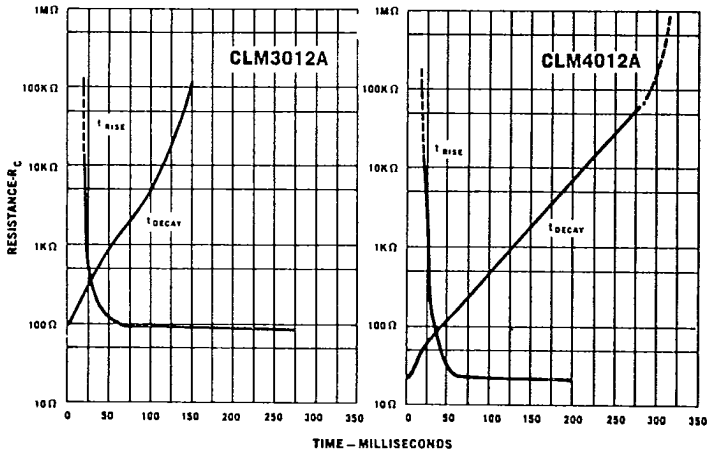
PHOTOCELL POWER DISSIPATION



RESPONSE TIME

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

These curves are representative characteristics. For specific speed specifications, please contact the factory.



NOTES ON DATA

❶ Maximum ON resistance measured after 24 hours with lamp ON at rated voltage (V_R) and current (I_R).

❷ ON resistance measured after module has had no lamp power applied for a minimum of 96 hours. Measurement made within one minute after lamp power is applied.

❸ Maximum rise time (t_R) is the time from application of lamp voltage (V_L) until $R_{CL} \leqq 5\ R_{CL}$ (Minimum). [For CLM3012A $R_{CL} \leqq 5\ R_{CL}$ (Maximum)]

❹ Maximum decay time (t_D) is the time from lamp turn off until $R_{CL} \geqq 30\ R_{CL}$ (Minimum). [For CLM3012A $R_{CL} \geqq 30\ R_{CL}$ (Maximum)]

❺ OFF resistance measured with 30 volts DC applied across photocell.

❻ Cell data presented in these curves is typical. For specific values at lamp voltages other than tabulated and for tolerances which can be expected in production, contact the factory.