

MICRO ELECTRONICS

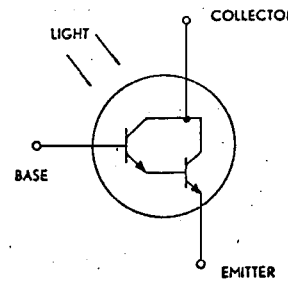
MAL11 MAL12

NPN

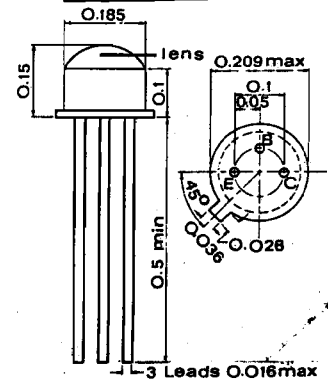
SILICON PHOTO

DARLINGTON TRANSISTORS

The MAL11, MAL12 are NPN silicon photo darlington transistors for use in sensitive photo detector circuits. They are supplied in selected light current groups.



CASE TO-18L



All dimensions in inches

ABSOLUTE MAXIMUM RATINGS

Collector-Emitter Voltage
 Emitter-Collector Voltage
 Collector Current
 Total Power Dissipation ($T_A \leq 25^\circ\text{C}$)
 Operating Junction & Storage Temperature

	MAL11	MAL12
V _{CEO}	30V	25V
V _{ECO}		5V
I _C		100mA
P _{tot}		300mW
T _j , T _{stg}		-55 to +100°C

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

PARAMETER	SYMBOL	MAL11			MAL12			UNIT	TEST CONDITIONS	
		MIN	TYP	MAX	MIN	TYP	MAX			
Collector-Emitter Breakdown Voltage	LV _{CEO} *	30	50		25	40		V	I _C =10mA (Pulsed) I _B =0	
Emitter-Collector Breakdown Voltage	BV _{ECO} *	5	8.5		5	8.5		V	I _E =0.1mA I _B =0	
Collector Cutoff Current (Dark current)	ICEO*			0.2			0.5	μA	V _{CE} =5V I _B =0	
Light Current	Group A Group B Group C Group D	I _L **	0.5	1	2				mA	V _{CE} =3V H=2mW/cm ²
			1	2	4	1	2	4	mA	
			3	5	10	3	5	10	mA	
			7	12	20	7	12	20	mA	

* Tested in complete darkness.

** The light current is the collector to emitter current measured at specified irradiance (H). The radiation source is an unfiltered tungsten filament lamp at 2874 K color temperature.



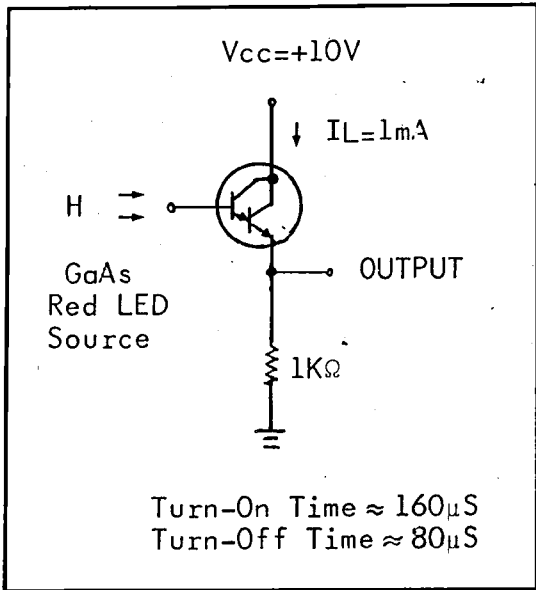
MICRO ELECTRONICS LTD. 美科有限公司

38 Hung To Road, Kwun Tong, Kowloon, Hong Kong. Cable: Microtron, Hong Kong. Telex: 43510 Micro Hx.
 P.O. Box 69477, Kwun Tong. Tel: 3-430181-6, 3-693363, 3-692423, 3-698221

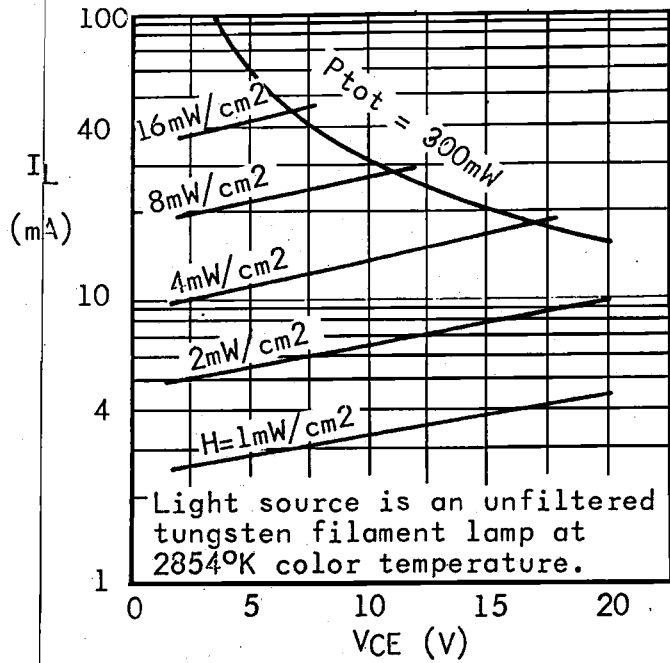
FAX: 3-410321

TYPICAL CHARACTERISTICS AT $T_A=25^\circ\text{C}$

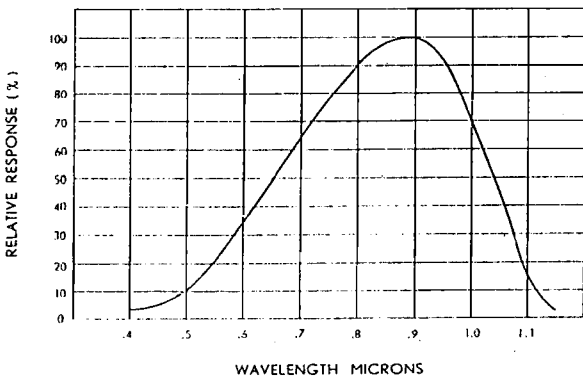
SWITCHING TIME



LIGHT CURRENT vs COLLECTOR-EMITTER VOLTAGE



SPECTRAL RESPONSE



RELATIVE RESPONSE VS. INCIDENT ANGLE

