



MEL 31
MEL 32

NPN SILICON
PHOTOTRANSISTOR

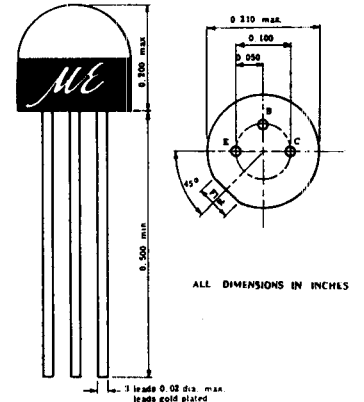
MECHANICAL OUTLINE
TO-106

GENERAL DESCRIPTION :

The MEL 31 and MEL 32 are three terminal NPN SILICON planar phototransistors. It features high illumination sensitivity, fast response time and low dark current.

ABSOLUTE MAXIMUM RATINGS :

Continuous Power Dissipation @ $T_A=25^\circ\text{C}$ pd	200 mW
Continuous Collector Current, I_{Cmax}	50 mA
Collector Base Voltage, V_{CBO}	40V, 60V
Collector Emitter Voltage, V_{CEO}	30V, 40V
Operating Junction Temperature Range, T_j	-55°C to $+85^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55°C to $+100^\circ\text{C}$



ELECTRICAL CHARACTERISTICS @ $T_A=25^\circ\text{C}$ (unless otherwise stated)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector -Base Breakdown Voltage MEL 31 MEL 32	BV_{CBO}	40 60			V	$I_C=0.1\text{mA}$
Collector-Emitter Breakdown Voltage MEL 31 MEL 32	LV_{CEO}	30 40			V	$I_C=10\text{mA}$
Base-Emitter Breakdown Voltage MEL 31 MEL 32	BV_{EBO}	6			V	$I_C=0.1\text{mA}$
D.C Current Gain MEL 31 MEL 32	H_{FE}	60				$V_C=5\text{V}$ $I_B=0.001\text{mA}$ $H=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.35	V	$I_C=500\ \mu\text{A}$ $H=2\ \text{mW/cm}^2$
Light Current MEL 31 MEL 32	I_L	10 30			μA	$V_C=5\text{V}$ $H=2\ \text{mW/cm}^2$
Dark Current MEL 31 MEL 32	I_D			50	nA	$V_C=5\text{V}$ $I_B=0$

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Light Current Rise Time	t_r		4		usec	$V_C=5\text{V}$ $I_C=1\text{mA}$ $R_L=100\ \text{Ohm}$
Light Current Fall Time	t_f		5		usec	$V_C=5\text{V}$ $I_C=1\text{mA}$ $R_L=100\ \text{Ohm}$
Peak Spectral Response	λ_p		0.8		μm	