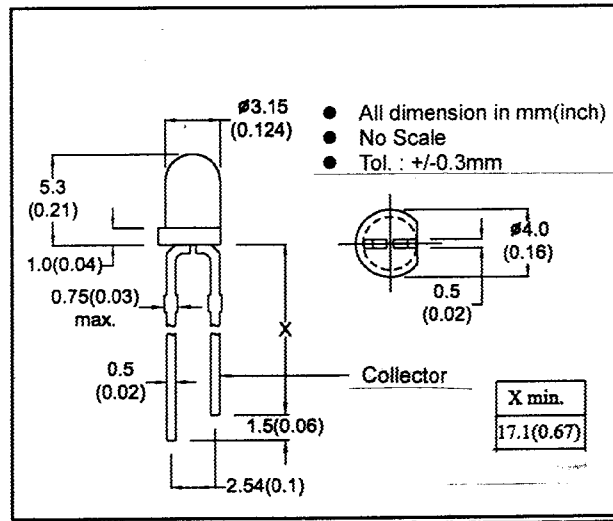


# MICRO ELECTRONICS

NPN SILICON  
PHOTO  
TRANSISTOR

## DESCRIPTION

MEL78D is NPN silicon planar photo-transistor with 3mm diameter light rejective filter epoxy package. It features ultra high illumination sensitivity and fast response time.



## ABSOLUTE MAXIMUM RATINGS

Collector-Emitter Voltage	V <sub>CEO</sub>	30V
Emitter-Collector Voltage	V <sub>ECO</sub>	5V
Continuous Power Dissipation	P <sub>d</sub>	50mW
Operating Junction Temperature	T <sub>j</sub>	-40 to +85°C
Storage Temperature Range	T <sub>stg</sub>	-40 to +100°C
Lead Soldering Temperature (5 second, 1/16 inch from body)		260°C

## ELECTRO-OPTICAL CHARACTERISTICS (T<sub>a</sub>=25°C)

PARAMETER	SYMBOL	MIN	MAX	UNIT	CONDITIONS
Collector-Emitter Breakdown Voltage	BV <sub>CEO</sub>	30		V	I <sub>C</sub> =100μA E <sub>e</sub> =0
Emitter-Collector Breakdown Voltage	BV <sub>ECO</sub>	5		V	I <sub>C</sub> =100μA E <sub>e</sub> =0
Dark Current	I <sub>D</sub>		100	nA	V <sub>CE</sub> =10V E <sub>e</sub> =0
Light Current	I <sub>L</sub> *	<b>1.3</b>		mA	V <sub>CE</sub> =5V E <sub>e</sub> =5mW/cm <sup>2</sup>
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>		0.3	V	I <sub>C</sub> =2mA I <sub>B</sub> =100μA
Rise Time	T <sub>r</sub>	15	TYP	μs	V <sub>CE</sub> =5V I <sub>C</sub> =1mA R <sub>L</sub> =1Kohm
Fall Time	T <sub>f</sub>	15	TYP	μs	V <sub>CE</sub> =5V I <sub>C</sub> =1mA R <sub>L</sub> =1Kohm

\* : Measured at noted irradiance as emitted from a tungsten filament lamp at a color temperature of 2354°K.

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