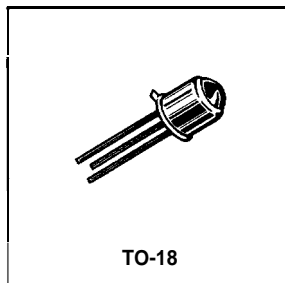


Z M 1 1 0

An NPN Silicon Planar phototransistor in an hermetically sealed TO-18 based encapsulation with a glass lens.

This package provides a high illumination sensitivity together with a narrow acceptance angle for improved discrimination.



ABSOLUTE MAXIMUM RATINGS (at 25°C ambient temperature).

Parameter	Symbol	Max.	Unit
Collector-Base Voltage	V_{CB0}	35	v
Collector-Emitter Voltage	V_{CEC}	35	v
Emitter-Base Voltage	V_{EB0}	10	v
		5	v
Total Power Dissipation	P_{tot}	300	mW
Operating and Storage Temperature Range	- 40 to + 150		°C

ZM110

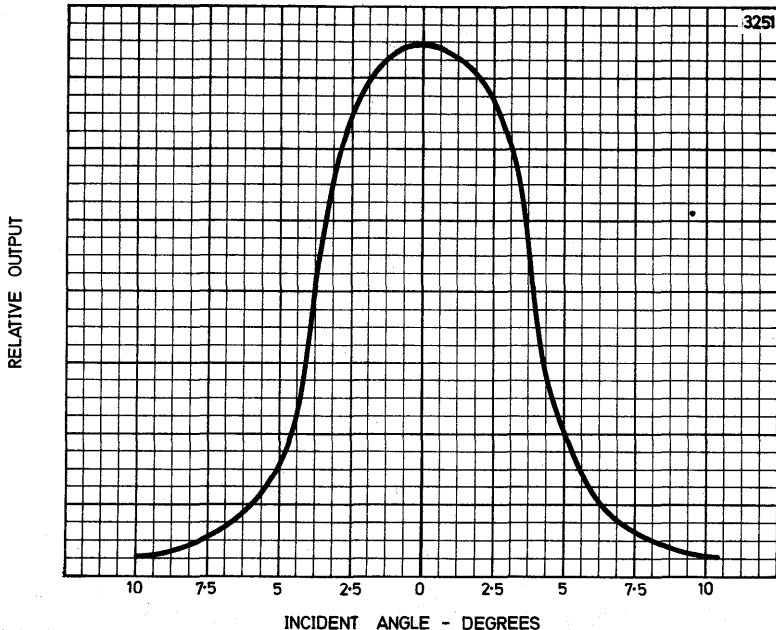
CHARACTERISTICS (at 25°C ambient temperature),

Parameter	ZM110			Unit	Conditions
	Min.	Typ .	Max.		
Collector dark current at 25°C at 100°C	— —	— —	0.025 10	μA μA	$V_{CE} = 10\text{V}$, $I_B = 0$ $E_v = 0$
Collector-emitter illumination sensitivity	—	—	—	$\mu\text{A}/\text{lum.}/\text{ft}^2$	$V_{CC} = 10\text{V}$, $E_v = 2$ turn./ft ² , $R_e = 1000\Omega$ (see note 1)
	100	200	—	$\mu\text{A}/\text{lum.}/\text{ft}^2$	$V_{CC} = 10\text{V}$, $E_v = 10$ lure./ft ² , $R_e = 100\Omega$ (see note 1)
Rise time, t_r (10% to 90%) Fall time, t_f (90% to 10%)	— —	— —	4.0 4.0	μs μs	(See note 2 and relevant graph)
Peak of spectral response	—	0.78	—	μm	

Notes:

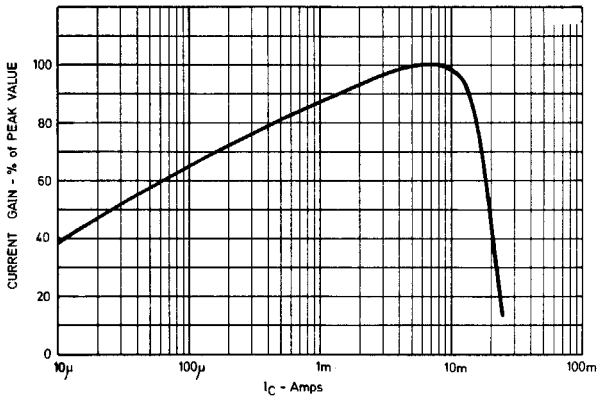
- 1 The illumination source is a tungsten filament lamp at 2856°K.
- 2 The illumination source is a Gallium Arsenide light-emitting diode adjusted to produce a peak emitter current of 1 mA in the phototransistor under test.

TYPICAL CHARACTERISTICS
Polar Response (both devices)

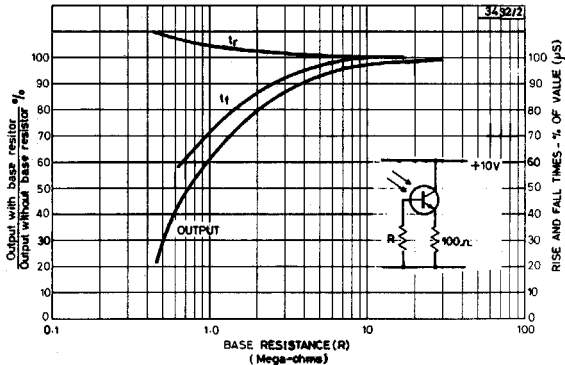


TYPICAL CHARACTERISTICS

ZM110 Current Gain v Collector Current

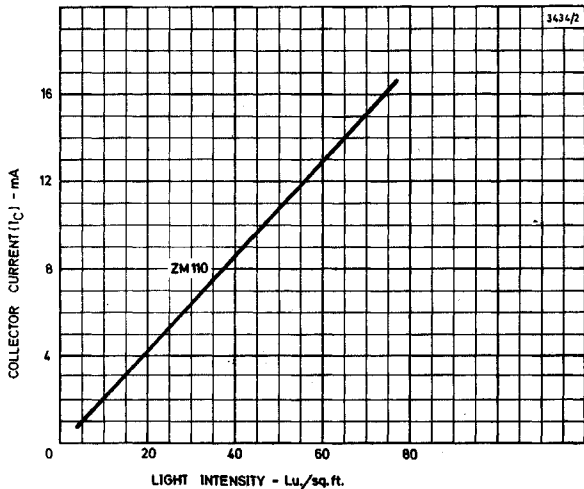


ZM110 Rise and Fall Time v Base Resistance



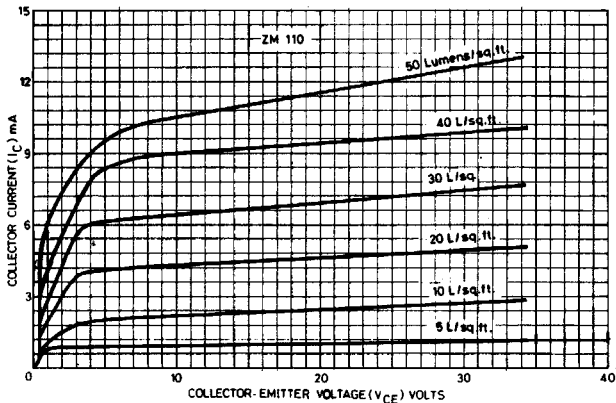
TYPICAL CHARACTERISTICS

ZM110 Collector Current v Light Intensity

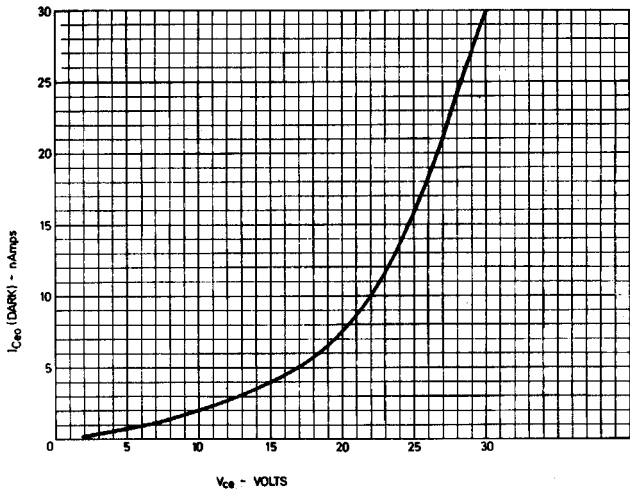


TYPICAL CHARACTERISTICS

ZM110 Collector Current v Collector-Emitter Voltage



ZM110 Dark Current v Collector-Emitter Voltage



TYPICAL CHARACTERISTICS

ZM110 Switching Time v Load Resistance

