EG&G VACTEC
OPTOELECTRONICS

10900 PAGE BLVD: ST. LOUIS, MO 63132 USA PHONE 314-423-4900 TWX 910-764-0811

RETRO PHOTO-SWITCH

VTR22D Series
LED – PHOTOTRANSISTOR

VTR22E Series
LED – PHOTODARLINGTON

FEATURES

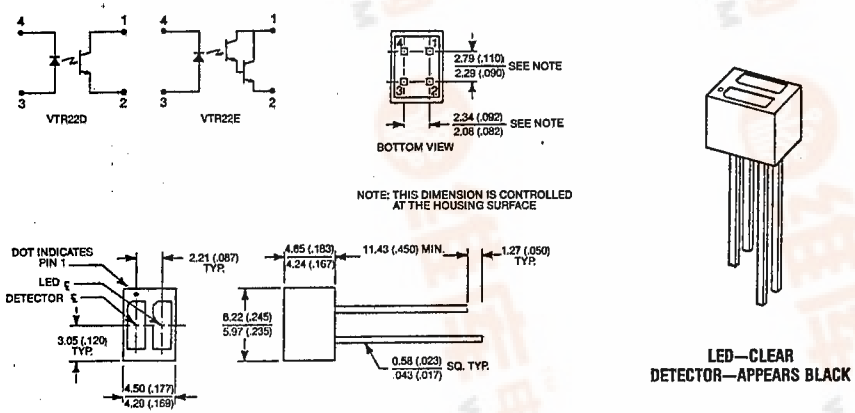
- *Small Size*
- *Phototransistor or Photodarlington Output*
- *Integral Visible Blocking Filter*
- *Graded Sensitivity*
- *Standard Case and Pinout*

PRODUCT DESCRIPTION

A Retro Photo-Switch normally sees no light. When an object passes within the field of view, it reflects IR light from the LED to the Detector. The amount of light reflected depends upon the distance from the Detector and the reflectance of the object.

The VTR22D Series and VTR22E Series consist of a GaAs LED with an NPN PHOTOTRANSISTOR (VTR22D) or PHOTODARLINGTON (VTR22E) mounted with each optical axis perpendicular to the face of the retro package.

PACKAGE DIMENSIONS mm [inches]



LED—CLEAR
DETECTOR—APPEARS BLACK

ABSOLUTE MAXIMUM RATINGS @ 25°C

Storage..... −40 to +80°C
Operating..... −40 to +80°C

Lead soldering temperature ..... 230°C
(5 Seconds maximum, 1.6mm from case)

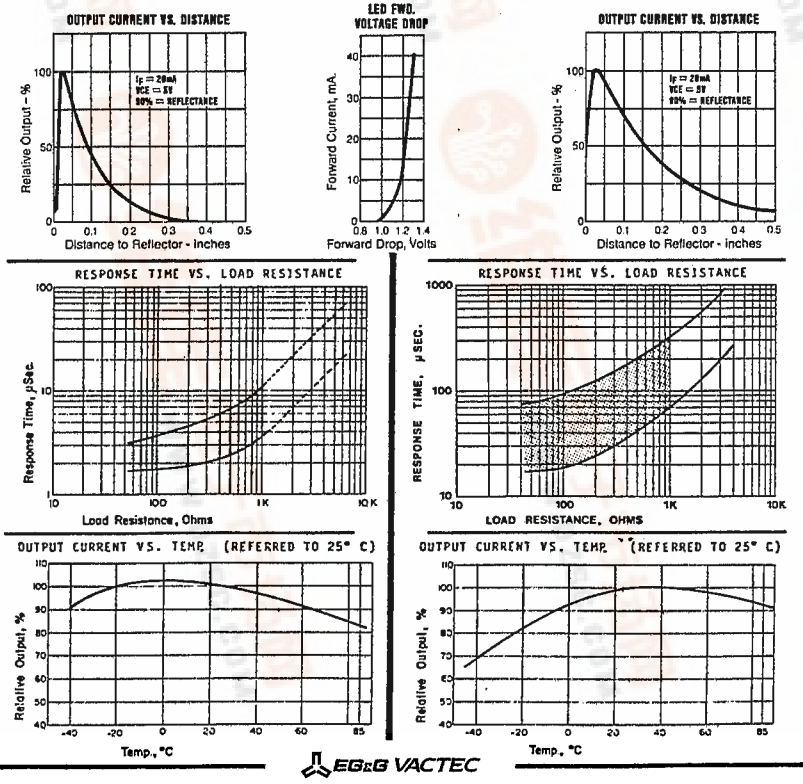
CHARACTERISTICS (25°C unless otherwise noted)	Infrared Emitter	Photo-Detector
Reverse Voltage, V_R @ I_F = 100µA	3.0V	
Continuous forward current, I_F (Derate 0.55mA/°C above 25°C)	50mA	
Forward voltage drop V_F @ I_F = 20mA	1.6V	
V_{BRCEO} @ I_C = 100µA	.....	30V
V_{BRECO} @ I_C = 100µA	.....	5.0V
Power Dissipation (Derate 1.35mW/°C above 25°C)	.....	75mW

ELECTRO-OPTICAL CHARACTERISTICS @ 25°C

PART NUMBER	LIGHT CURRENT (1) I_C mA Min.	Test Condition I_F mA	Test Condition V_{CE} VOLTS	Test Condition d mm (In.)	CROSS TALK (2) I_{CX} µA Max.	Test Condition I_F mA	Test Condition V_{CE} VOLTS	Test Condition d mm (In.)	DARK CURRENT (3) I_D nA Max.	Test Condition I_F mA	Test Condition V_{CE} VOLTS
VTR22D1	.20	20	5	1.27 (.05)	.20	20	5	150 (6)	100	0	10
VTR22D2	.36	20	5	1.27 (.05)	.20	20	5	150 (6)	100	0	10
VTR22D3	.51	20	5	1.27 (.05)	.20	20	5	150 (6)	100	0	10
VTR22E1	10	20	5	1.27 (.05)	10	20	5	150 (6)	1000	0	10
VTR22E2	18	20	5	1.27 (.05)	10	20	5	150 (6)	1000	0	10
VTR22E3	26	20	5	1.27 (.05)	10	20	5	150 (6)	1000	0	10

NOTES

(1) With a 90% reflectance surface.
(2) With less than 10% reflectance surface. Device shielded from ambient light.
(3) The dark current is measured with the part totally shielded from ambient light.



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