



Author: Jim Toal
Tel: 1 408 567-8358
E-mail: jim.toal@vishay.com

New VEMT Series of Silicon NPN Phototransistors

The News:

Vishay Releases New VEMT Series of Silicon NPN Phototransistors In PLCC-2 Package That is Compatible With Lead (Pb)-Free Soldering

Vishay Intertechnology, Inc. (NYSE: VSH) continues to broaden its optoelectronics portfolio with the release of wide-angle photo transistors in a PLCC-2 surface mount package that is compatible with lead (Pb)-free soldering. Optical, electrical, and dimensional features of the VEMT series are 100 % compatible with the current TEMT series of phototransistors, and can be used as direct replacements.

Features:

- Compatible with lead (Pb)-free reflow soldering processes according to JEDEC-STD-020C
- Feature the same specifications as the TEMT series, enabling simple and quick migration to meet lead (Pb)-free soldering requirements
- $\pm 60^\circ$ angle of sensitivity and rise and fall times of 2 μs
-

Key Specifications:

Part number	Peak Wavelength (nm)	Bandwidth ³ (nm)	Collector Light Current ² , I_{ca} (mA)	Angle of Half Sensitivity (\pm°)	Rise and Fall Time ¹ , t_r/t_f (μs)
VEMT3700	850	450 to 1100	0.5	60	2
VEMT3700F	940	830 to 1100	0.5	60	2
VEMT4700	850	450 to 1080	0.5	60	2

Note 1 - Speed: $R_L = 100 \Omega$, $\lambda = 950 \text{ nm}$, $V = 5 \text{ V}$

Note 2 - Collector Light Current: $V_{CE} = 5 \text{ V}$, $E_e = 1 \text{ mW/cm}^2$, $\lambda = 950 \text{ nm}$, typical

Note 3 - Bandwidth $\lambda_{0.1} \text{ nm}$



New Product Info



Product Group: Vishay Semiconductors, Phototransistors / March 2008

Key Applications:

Object sensor, gear shifting, optical switching, proximity sensor, shaft encoding, software data transmission, thumb wheel sensor, and touch key applications in distribution products such as ATMs, coin machines, and vending machines; consumer products; and automotive, EMS, and industrial systems

The Perspective:

Vishay's TEMT series of phototransistors are lead (Pb)-free PLCC-2 devices, but they require lead (Pb)-based solder. The new VEMT series of phototransistors feature the same specifications as the TEMT series devices but are compatible with lead (Pb)-free soldering. Optical, electrical, and mechanical compatibility allow for easy replacement of the TEMT phototransistors.

Availability: Samples and production quantities are available now, with lead times of four to six weeks for large quantities.

Contact Information:

The Americas

Dale Henderson

+1 408-567-8317

Dale.Henderson@Vishay.com

Europe

Kai Rottenberger

+49 7131 67-2113

Kai.Rottenberger@vishay.com

Asia/Pacific

Werner Kreile

+65 6780-7812

werner.kreile@vishay.com