

Plastic Point Source Infrared Emitting Diode

OP245PS



Features:

- Point source irradiance pattern
- Side-looking package for space-limited applications
- Wavelength matched to silicon's peak response
- Higher power output than GaAs at equivalent drive currents
- Fast switching speed

Description:

Each **OP245PS** device is an infrared emitting diode with a 850 nm GaAIAs chip, molded in a clear IR-transmissive side-looking epoxy package. This package makes these devices ideal for PCBoard mounted slotted switches and for mounted interrupt detectors.

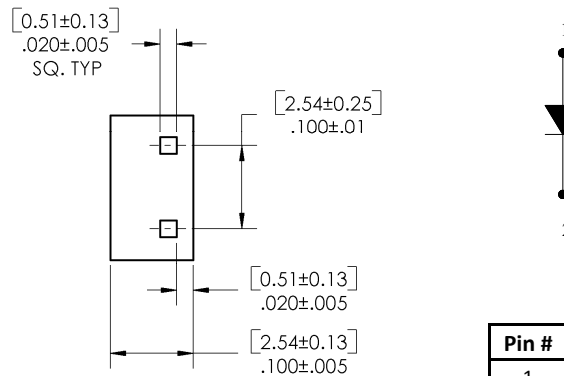
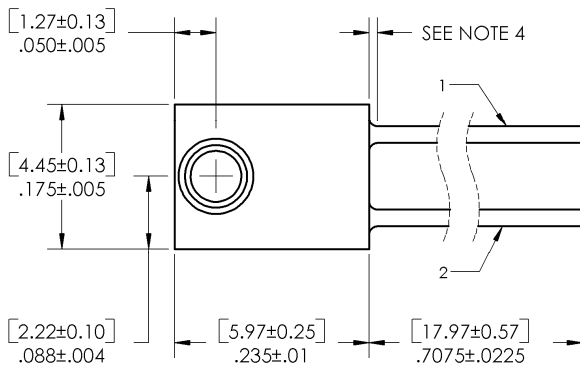
The stable forward V_F vs T_A characteristic make them suitable for applications that have limited voltage, such as battery operation; whereas, the low T_R/T_F makes them ideal for high-speed operations.

Please refer to Application Bulletins 208 and 210 for additional design information and reliability (degradation) data.

Applications:

- Space-limited applications
- PCBoard mounted slotted switch
- Mounted interrupt detector
- High-speed applications

Ordering Information				
Part Number	LED Peak Wavelength	Lens Type	Total Beam Angle	Lead Length (min.)
OP245PS	850 nm	Flat	±18°	0.5" / 12.7 mm



Pin #	LED
1	Anode
2	Cathode

NOTES;

1. OUTSIDE DISCRETE SHELL IS POLYSULFONE P1700-11 CLEAR.
2. THIS LED IS BUILT WITH A 0.011" X 0.011" GaAIAs CHIP.
3. MAX ALLOWABLE EPOXY MENSCLUS IS 0.010".



CONTAINS POLYSULFONE
 To avoid stress cracking, we suggest using ND Industries' **Vibra-Tite** for thread-locking. **Vibra-Tite** evaporates fast without causing structural failure in OPTEK'S molded plastics.

General Note
 TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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Electrical Specifications

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)	
Storage and Operating Temperature Range	-40°C to $+100^\circ\text{C}$
Reverse Voltage	2.0 V
Continuous Forward Current	50 mA
Peak Forward Current	1.0 A
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 seconds with soldering iron]	$260^\circ\text{C}^{(1)}$
Power Dissipation	$100\text{ mW}^{(2)}$

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diode						
$E_{E(APT)}$	Apertured Radiant Incidence	0.12	-	0.8	mW/cm ²	$I_F = 20\text{ mA}^{(3)}$
V_F	Forward Voltage	1.2	-	1.7	V	$I_F = 20\text{ mA}$
I_R	Reverse Current	-	10	-	μA	$V_R = 2\text{ V}$
λ_P	Wavelength at Peak Emission	-	850	-	nm	$I_F = 20\text{ mA}$
B	Spectral Bandwidth between Half Power Points	-	50	-	nm	$I_F = 20\text{ mA}$
θ_{HP}	Emission Angle at Half Power Points	-	$\pm 18^\circ$	-	Degree	$I_F = 20\text{ mA}$
t_r	Output Rise Time	-	10	-	ns	$I_{F(PK)} = 20\text{ mA}$, PW = 10 μs , D.C. = 10%
t_f	Output Fall Time	-	10	-	ns	$I_{F(PK)} = 20\text{ mA}$, PW = 10 μs , D.C. = 10%

Notes:

1. RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering. A maximum of 20 grams force may be applied to the leads when soldering.
2. Derate linearly $1.33\text{ mW}/^\circ\text{C}$ above 25°C .
3. $E_{E(APT)}$ is a measurement of the average apertured radiant energy incident upon a sensing area 0.180" (4.57 mm) in diameter perpendicular to and centered on the mechanical axis of the lens and 0.653" (16.6 mm) from the lens tip. $E_{E(APT)}$ is not necessarily uniform within the measured area.

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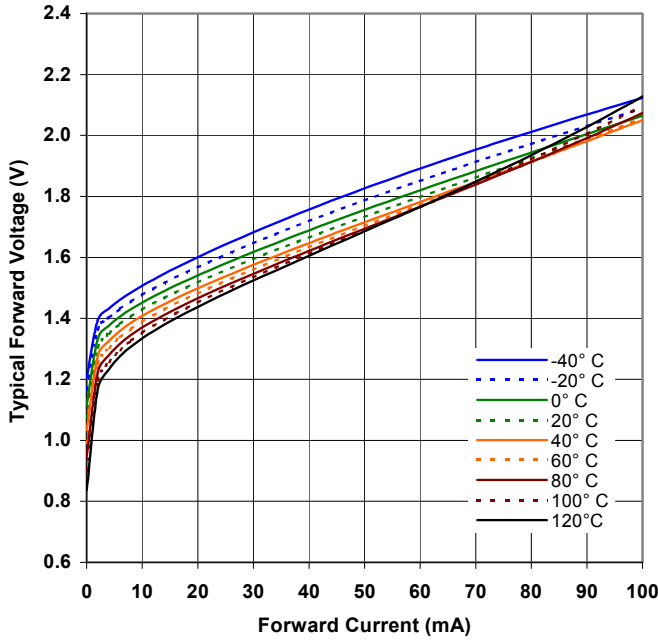
OP245PS



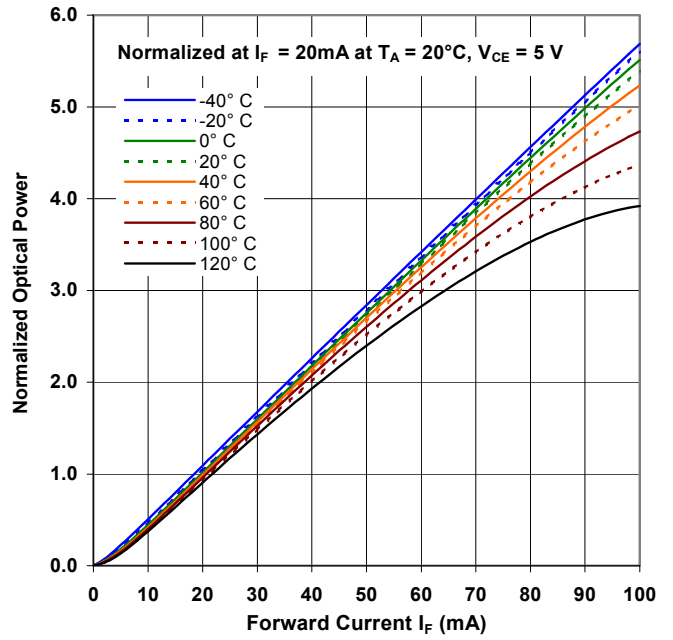
Performance

OP245PS

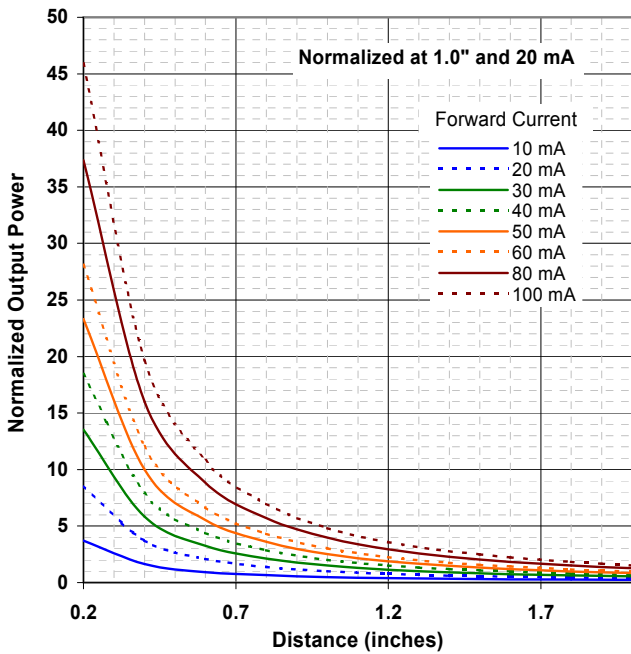
Forward Voltage vs Forward Current vs Temperature



Optical Power vs Forward Current vs Temperature



Distance vs Power vs Forward Current



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Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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