



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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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.

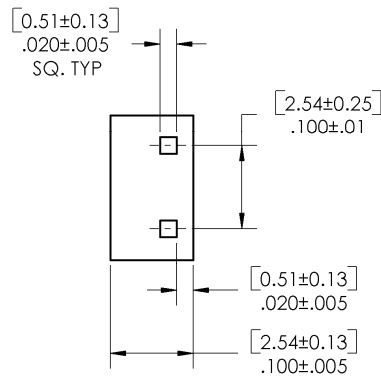
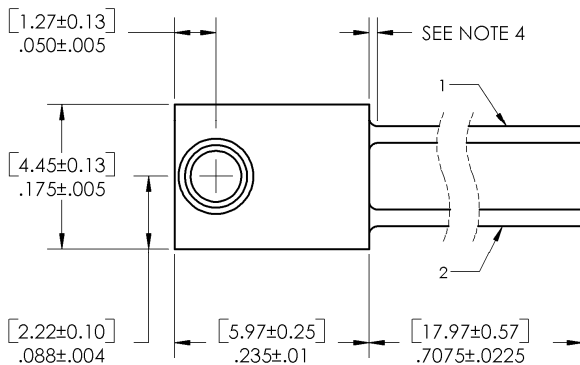
The stable forward V_F vs T_A characteristic make them suitable for applications that have limited voltage, such as battery operation; whereas, the low T_R/T_F makes them ideal for high-speed operations.

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 MENSCUS 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.

OPTEK Technology, Inc.
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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	$I_{F(PK)} = 20\text{ mA}$, $PW = 10\ \mu\text{s}$, D.C. = 10%
t_f	Output Fall Time	-	10	-	ns	$I_{F(PK)} = 20\text{ mA}$, $PW = 10\ \mu\text{s}$, 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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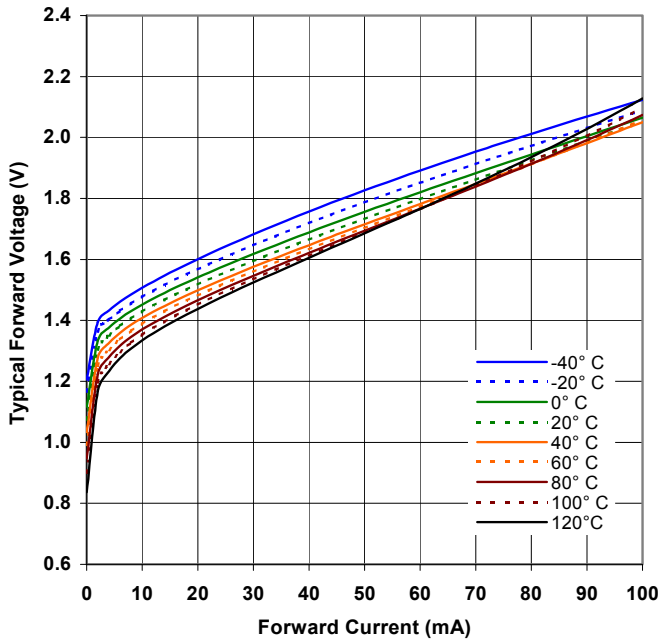
OP245PS



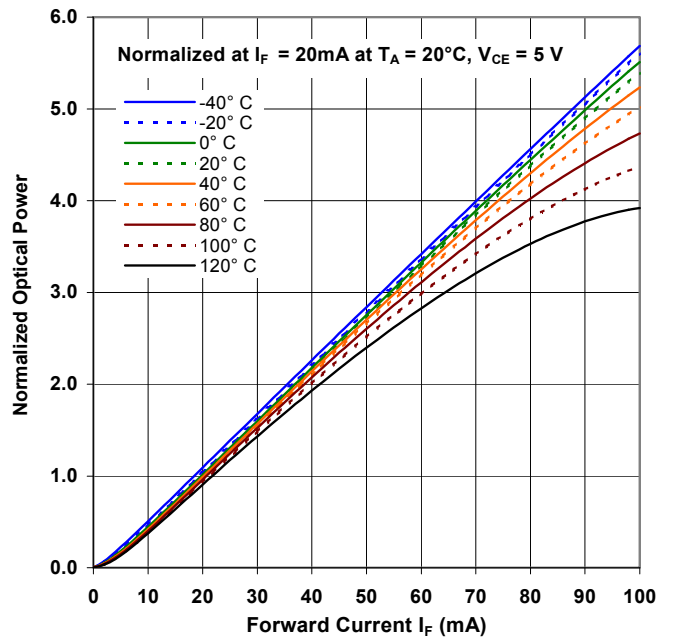
Performance

OP245PS

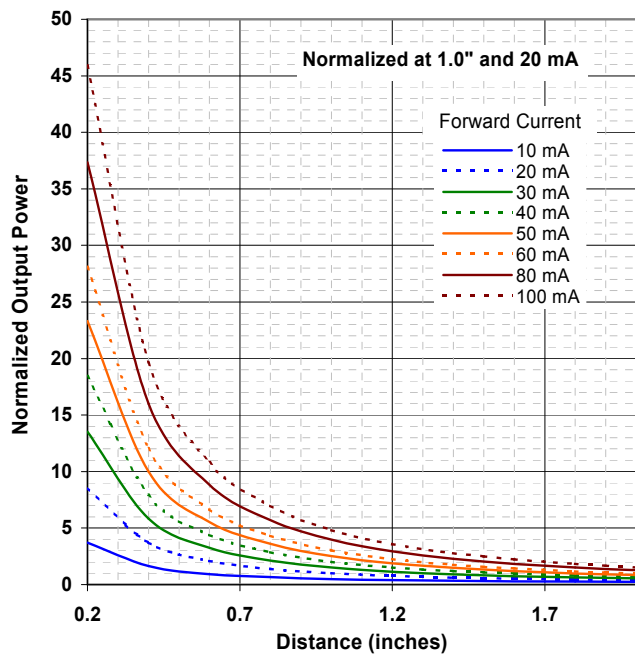
Forward Voltage vs Forward Current vs Temperature



Optical Power vs Forward Current vs Temperature



Distance vs Power vs Forward Current



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