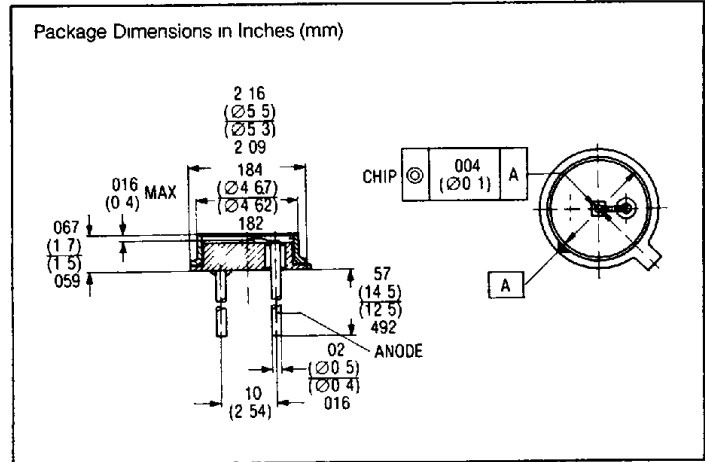
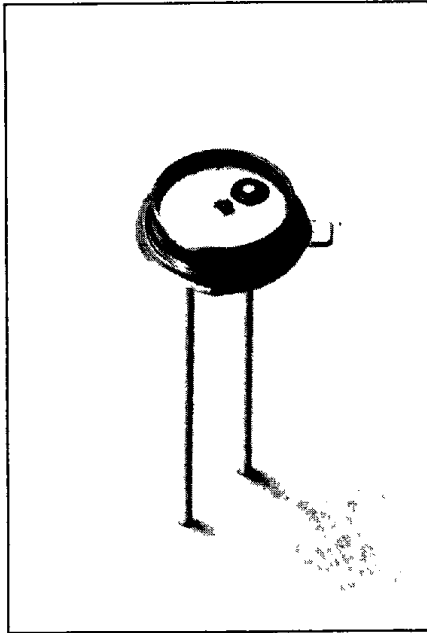


**SIEMENS**

**SFH 407 SERIES**

**INFRARED EMITTER**

T-41-07



**FEATURES**

- TO-46 Package
- Flat Epoxy Coating
- 0.1" (2.54 mm) Lead Spacing
- For Fiber Optic Communications Up to 5 MBit/s
- Two Intensity Ranges  
 SFH 407-2, .63 to 1.25 mW/sr  
 SFH 407-3, 1.0 to 2.0 mW/sr

**DESCRIPTION**

The SFH 407 GaAs diode emits radiation in the near infrared range. The radiation emitted is excited by current flowing in the forward direction and can be modulated. This diode is particularly noted for its high radiation ability. The SFH 407 is mounted in a TO-46 metal case and is coated with epoxy resin. It is designed for applications in fiber optics communications up to 5 MBit/s.

**Maximum Ratings**

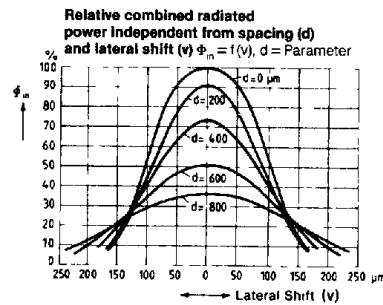
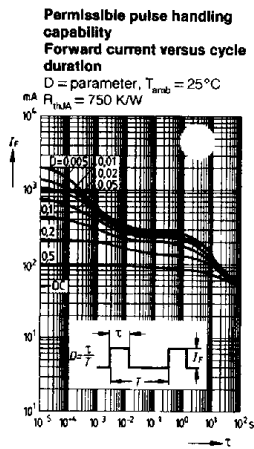
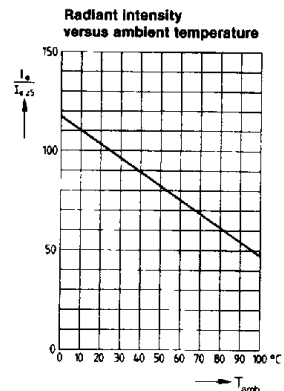
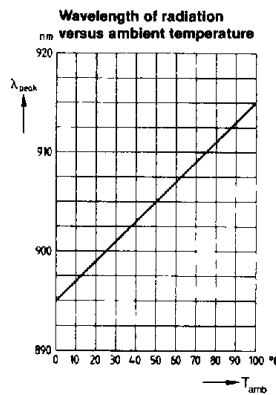
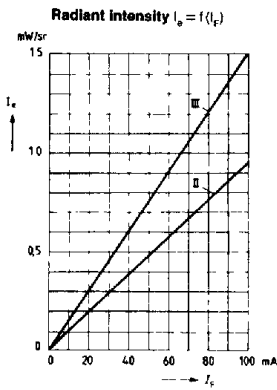
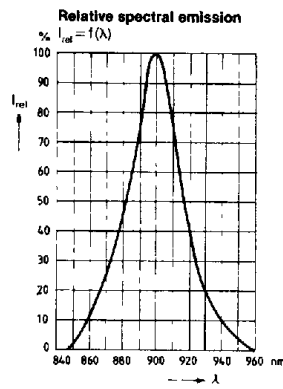
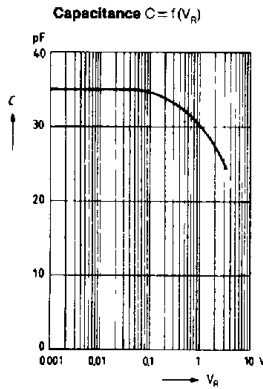
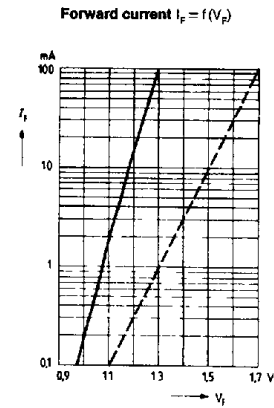
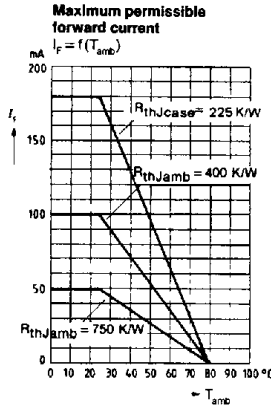
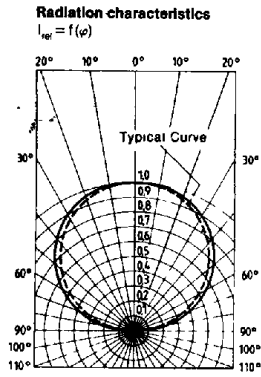
Reverse Voltage ( $V_R$ )	2 V
Forward Current ( $I_F$ )	50 mA
Forward Current When Mounted in LWL Socket ( $I_F$ ), ( $T_{amb} \leq 25^\circ C$ )	100 mA
Surge Current ( $I_{FS}$ ), $\tau \leq 100 \mu s$	200 mA
Storage Temperature Range ( $T_s$ )	-40 to +80°C
Junction Temperature ( $T_j$ )	80°C
Thermal Resistance	
Junction-to-Air ( $R_{thJA}$ )	750 K/W
Junction-to-Air When Inserted in LWL Socket ( $R_{thJA}$ )	400 K/W
Junction-to-Case ( $R_{thJC}$ )	225 K/W

**Characteristics ( $T_{amb} = 25^\circ C$ )**

Wavelength at Peak Emission, $\lambda_{peak}$	900 ± 20 nm
Spectral Bandwidth, $\Delta\lambda$	40 nm
Half-Life Radiant Intensity in Gradient Profile Fiber with Core Diameter 63 $\mu m$ , N A = 0.2 ( $I_0 = 1$ mW/sr), $\Phi_0$	2 $\mu W$
50 $\mu m$ , N A = 0.2 ( $I_0 = 1$ mW/sr), $\Phi_0$	125 $\mu W$
Rise Time (10% to 90% $I_F = 100$ mA), $t_r$	50 ns
Fall Time (90% to 10% $I_F = 100$ mA), $t_f$	40 ns
Bandwidth, B	7 MHz
Forward Voltage ( $I_F = 30$ mA), $V_F$	1.22 (± 1.6) V
Reverse Current ( $V_R = 2$ V), $I_R$	0.01 (± 10) $\mu A$
Capacitance ( $V_R = 0$ V), $C_0$	35 pF

Group	-2	-3	
Radiant Intensity, $I_0$	0.63 to 1.25	1.0 to 2.0	mW/sr
Radiant Flux (Radiant Power) (Total) Typ., $\Phi_0$	3.0	4.7	mW
Radiant power coupled into a stepped index fiber, $\Phi = 200 \mu m$ , N A = 0.4 Om	60 (≥ 40)	90 (≥ 63)	$\mu W$
Radiant power coupled into a gradient index fiber, $\Phi = 50 \mu m$ , N A = 0.2	1.1	1.7	$\mu W$

T-41-07



Infrared Emitters