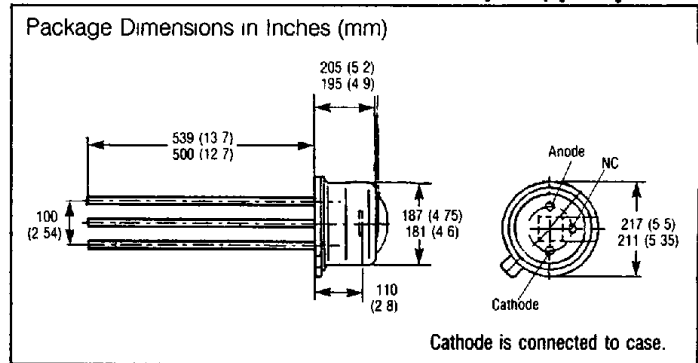
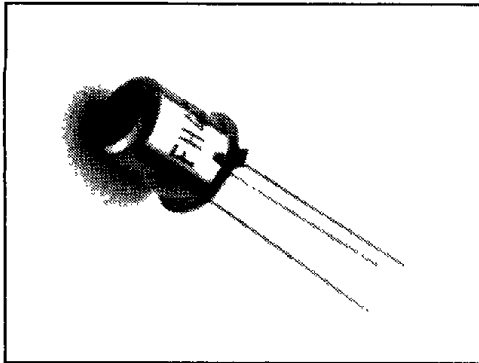


**SIEMENS**

**SFH 431 SERIES**  
**INFRARED EMITTER**



**FEATURES**

- TO-18 Hermetic Package, 3-Leaded
- Dome Glass Lens
- Very Narrow Beam,  $\pm 8^\circ$
- Three High Power Intensity Ranges
  - SFH 431 10 mW/Sr
  - SFH 431-1 10-20 mW/Sr
  - SFH 431-2 16-32 mW/Sr
  - SFH 431-3  $\geq 25$  mW/Sr
- Reversed Polarity Compared to SFH 401
- GaAs Material

**DESCRIPTION**

The SFH 431 is a GaAs infrared emitting diode which emits radiation in the near infrared range. The emitted radiation, which can be modulated, is caused by current in the forward direction. The SFH 431 comes in a 3-leaded TO-18 package and has a glass lens to provide a narrow emitting beam. The cathode lead is the lead closest to the tab. The cathode is electrically connected to the case. The SFH 431 is electrically similar to the SFH 401 series, but has a reversed pin out and case polarity.

**Absolute Maximum Ratings**

Parameter	Symbol	Min	Max	Unit
Power Dissipation			470	mW
DC Forward Current			300	mA
Surge Current ( $t < 10 \mu s, D = 0$ )	$I_F$		3.0	A
Reverse Voltage	$V_R$		5.0	V
Storage Temperature	$T_S$	-55	100	$^\circ C$
Operating Temperature	$T_A$	-55	100	$^\circ C$
Junction Temperature	$T_J$		100	$^\circ C$
Lead Soldering Temperature			260 $^\circ C$ for 5 sec	
			( $\frac{1}{8}$ inch from case)	

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Forward Voltage	$V_F$	1.3	1.5		V	$I_F = 100$ mA
Forward Voltage	$V_F$	1.9	2.5		V	$I_F = 1$ A
Reverse Current	$I_R$	0.01	10		$\mu A$	$V_R = 5$ V
Peak Wavelength	$\lambda_p$	930	950	970	nm	$I_F = 100$ mA
Half Angle	$\phi$		$\pm 8$		Deg	

The diodes are grouped according to their radiant intensity  $I_e$  in axial direction (at  $I_F = 100$  mA,  $t_p = 20$  ms).

Dash Number	SFH431	-1	-2	-3	Unit
Radiant Intensity $I_e$	10	10-20	16-32	$\geq 25$	mW/Sr
$\Phi_e$ (Total) typ	6	5	6	7	mW

**Radiant Characteristics  $I_{rel} = f(\phi)$**

