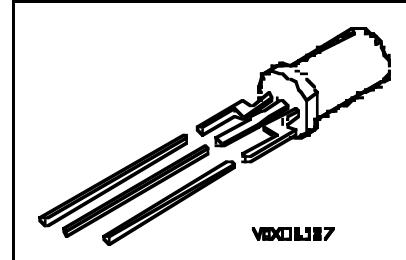


Plastic Fiber Optic Phototransistor Detector Plastic Connector Housing

SFH 350
SFH 350V

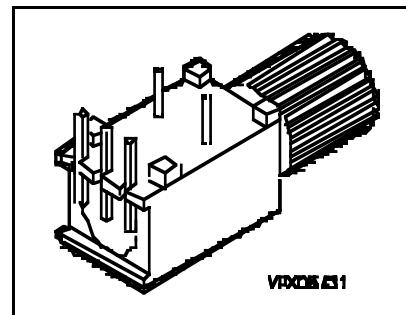
Features

- 2.2 mm aperture holds standard 1000 micron plastic fiber
- No fiber stripping required
- Good linearity
- Sensitive in visible and near IR range
- Molded microlens for efficient coupling



Plastic Connector Housing

- Mounting screw attached to the connector
- Interference-free transmission from light-tight housing
- Transmitter and receiver can be flexibly positioned
- No cross talk
- Auto insertable and wave solderable
- Supplied in tubes



Applications

- Household electronics
- Power electronics
- Optical networks
- Medical instruments
- Automotive electronics
- Light barriers

Type	Ordering Code
SFH 350	Q62702-P1033
SFH 350V	Q62702-P264

Maximum Ratings

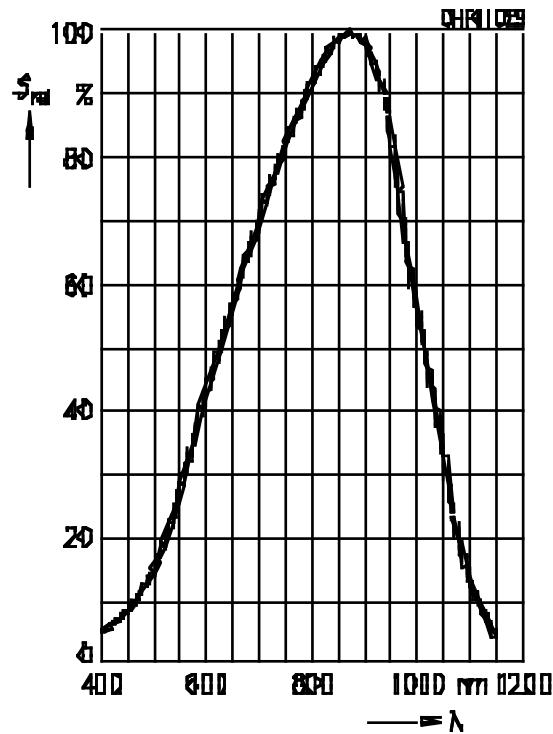
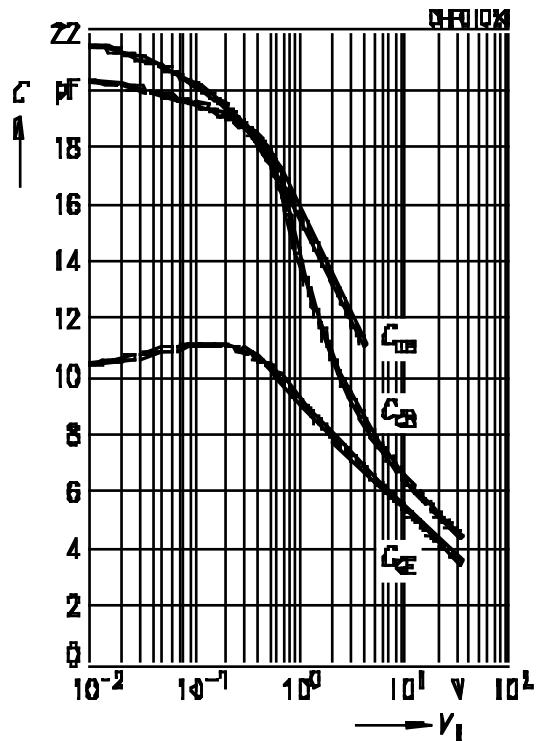
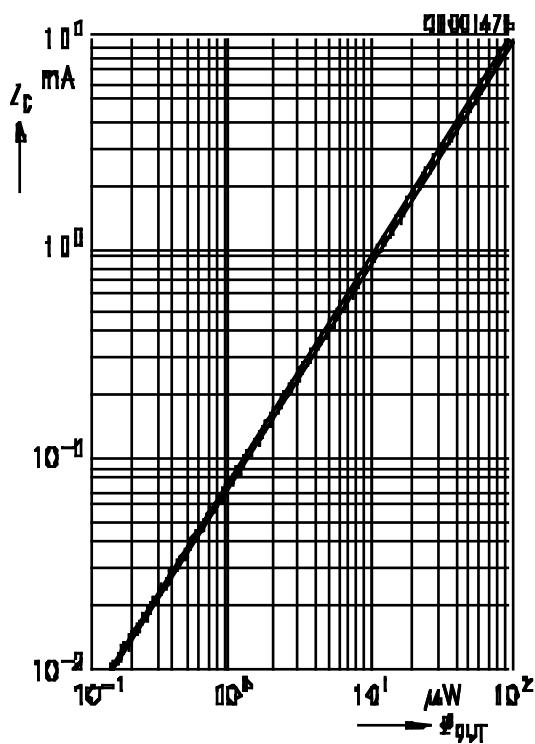
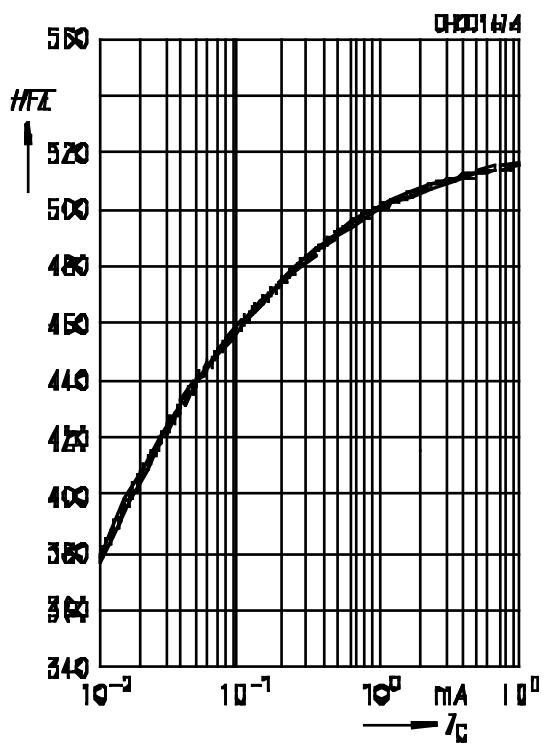
Parameter	Symbol	Values	Unit
Operating temperature range	T_{OP}	- 55 ... + 100	°C
Storage temperature range	T_{STG}	- 55 ... + 100	°C
Soldering temperature (2 mm from case bottom, $t \leq 5$ s)	T_S	260	°C
Collector-emitter voltage	V_{CE}	50	V

Maximum Ratings (cont'd)

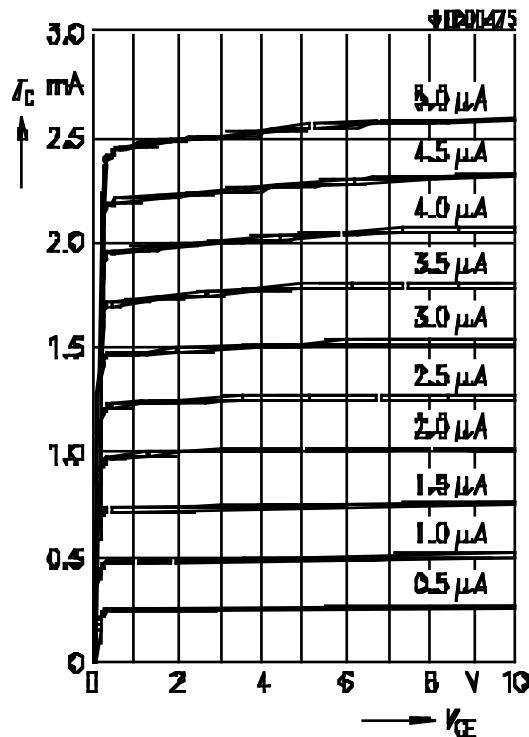
Parameter	Symbol	Values	Unit
Collector current	I_C	50	mA
Collector peak current ($t \leq 10$ s)	I_{CP}	100	mA
Emitter-bas voltage	V_{EB}	7	V
Reverse voltage	V_R	30	V
Power dissipation $T_A = 25$ °C	P_{tot}	200	mW
Thermal resistance, junction/air	R_{thJA}	375	K/W

Characteristics ($T_A = 25$ °C)

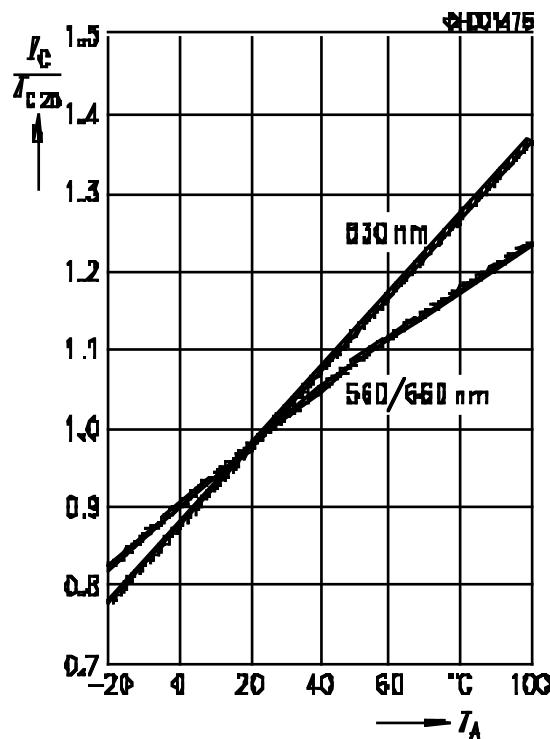
Parameter	Symbol	Values	Unit
Maximum photosensitivity wavelength	λ_{Smax}	850	nm
Photosensitivity spectral range ($S = 10\% S_{max}$)	λ	400 ... 100	nm
Dark current ($V_R = 20$ V)	I_R	1 (≤ 10)	nA
Capacitance ($f = 1$ MHz, without light) ($V_{CE} = 0$ V) ($V_{CB} = 0$ V) ($V_{EB} = 0$ V)	C_{CE} C_{CB} C_{EB}	10.5 21.5 20.5	pF pF pF
Rise and fall times of photocurrent ($R_L = 1$ kΩ, $V_{CE} = 5$ V, $I_C = 10$ mA, $\lambda = 959$ nm) 10 % ... 90 % 90 % ... 10 %	t_R t_F	20 20	ms ms
Photocurrent ($V_{CE} = 5$ V, $\Phi_{IN} = 10$ μW coupled from the end of a plastic fiber, $\lambda = 660$ nm)	I_{CE}	0.8 (≥ 0.16)	mA
Forward voltage ($I_F = 50$ mA)	V_F	2.1 (≤ 2.8)	V
Temperature coefficient HFE	TC_{HFE}	0.55	%/K
Temperature coefficient I_{CE} $\lambda = 560 \dots 660$ nm	TC_I	0.34	%/K
Temperature coefficient I_{CE} $\lambda = 830$ nm	TC_I	0.49	%/K
Temperature coefficient I_{CE} $\lambda = 950$ nm	TC_I	0.66	%/K

Relative spectral sensitivity $S_{\text{rel}} = f(\lambda)$ **Capacitance** $C = f(V_R), f = 1 \text{ MHz}, E_V = 0$ **Photocurrent** $I_C = f(\Phi_{\text{OUT}})$, $V_{\text{CE}} = 5 \text{ V}$, $\lambda = 560 \dots 950 \text{ nm}$ **Current gain** $HFE = f(I_C)$, $V_{\text{CE}} = 5 \text{ V}$, $T_A = 25^\circ\text{C}$ 

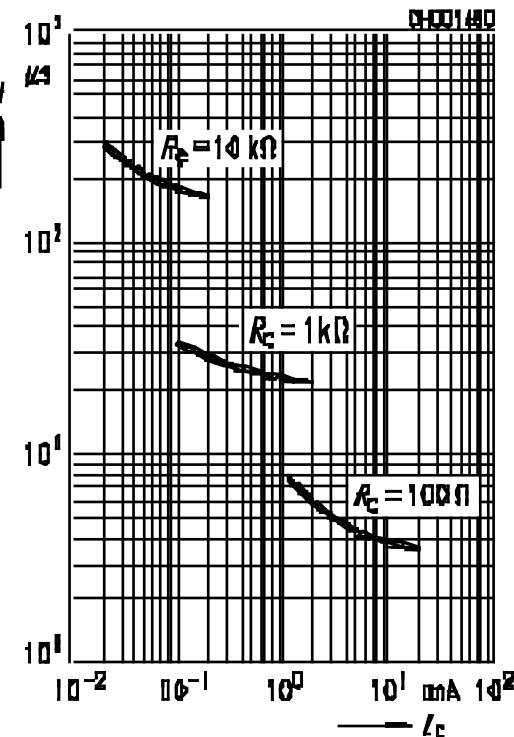
Output characteristics $I_C = f(V_{CE})$,
 I_B = parameter



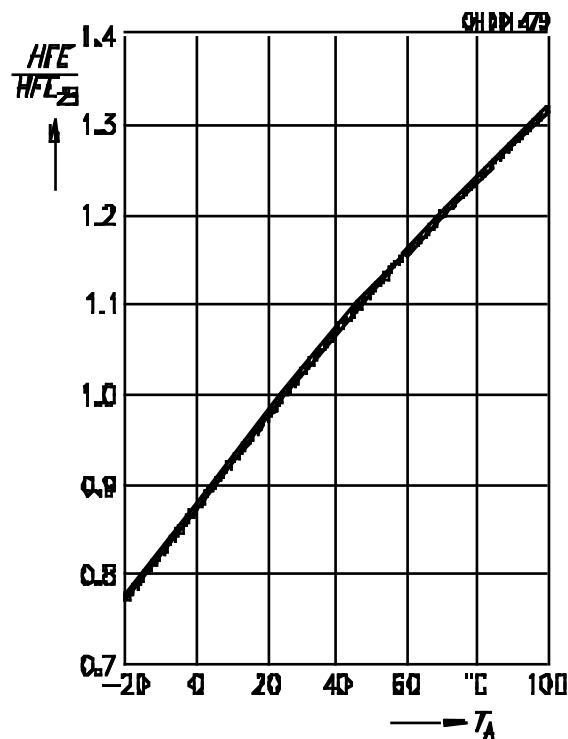
Photocurrent $I_C/I_{C25} = f(T_A)$, $V_{CE} = 5$ V,
 λ = parameter

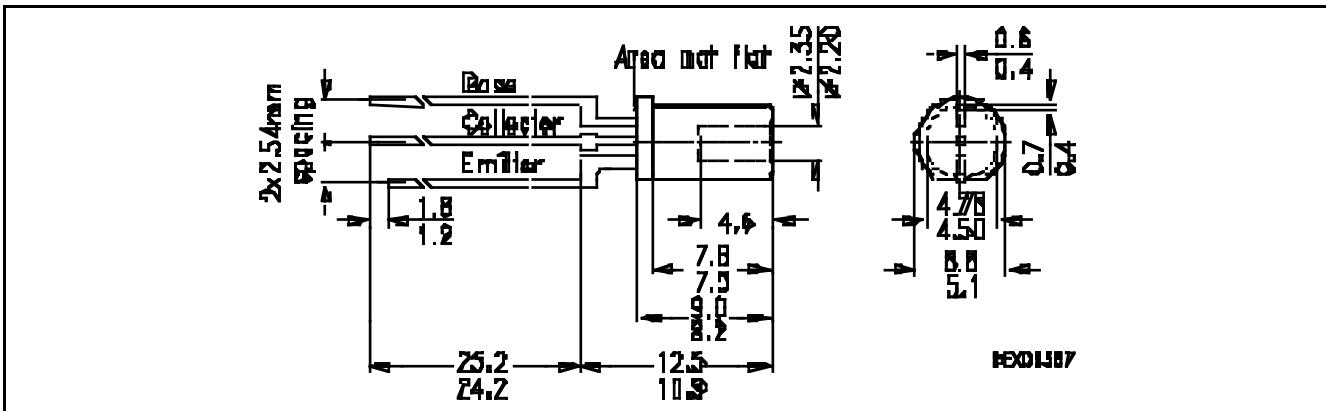
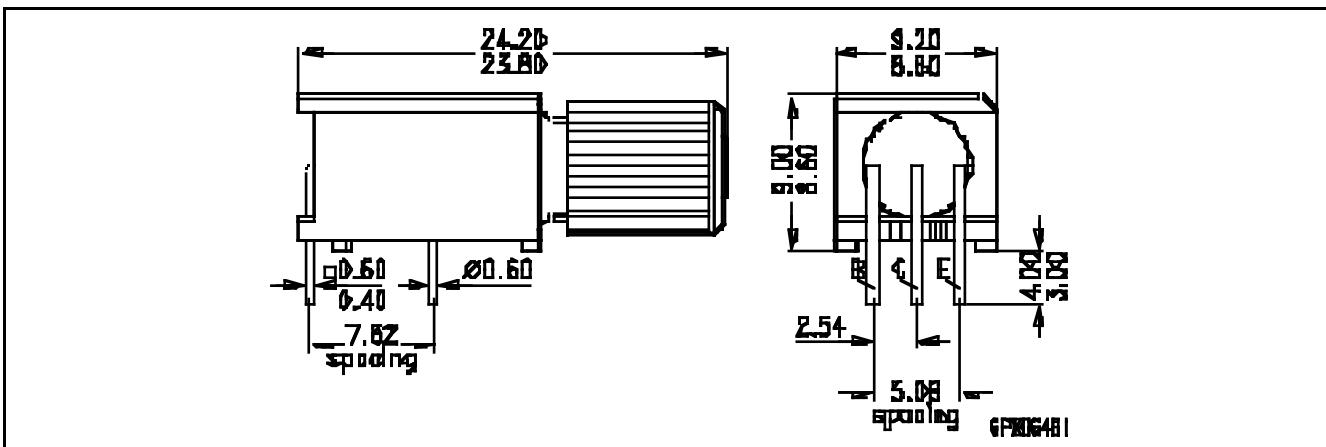


Response time $t = f(I_C)$, $V_{CC} = 5$ V,
 $\lambda = 950$ nm



Current gain $HFE/HFE_{25} = f(T_A)$, $V_{CE} = 5$ V,
 $I_C = 1$ mA



Package Outlines (dimensions in mm, unless otherwise specified)**SFH 350****SFH 350V**