

Silicon NPN Epitaxial Planar Phototransistor

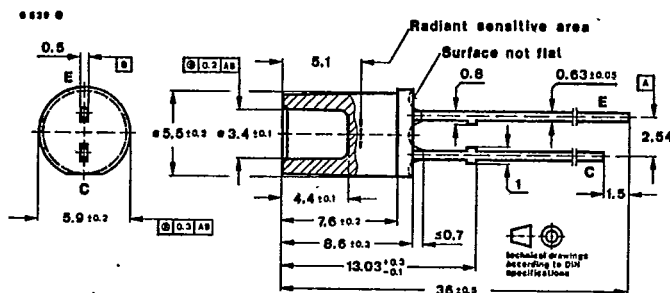
in clear plastic package for plastic fiber connection

- Applications:** Signal receiver for:
- Low cost fiber links
 - Large distance isolators
 - Special interrupters

Features:

- Suitable for large range of wavelength
- High coupling efficiency for $\varnothing 1$ mm plastic fibers
- With special accessories suitable for three different diameters of plastic fiber
- To combine with TLYR 5500

Dimensions in mm

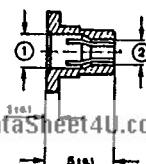
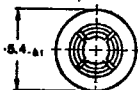


Special case
Weight max. 0.4 g

Accessories:

Clips for coupling with plastic fiber

Type	Fiber diameter mm	Dimensions in mm for:	
		①	②
YC 10	1.0	1.1	0.8
YC 15	1.5	1.65	1.3
YC 20	2.0	2.2	1.7



Absolute maximum ratings

Collector-emitter voltage	V_{CEO}	70	V
Emitter-collector voltage	V_{ECO}	5	V
Collector current	I_C	100	mA
Peak collector current			
$\frac{t_p}{T} = 0.5, t_p \leq 10 \text{ ms}$	I_{CM}	200	mA
Total power dissipation			
$T_{amb} \leq 65^\circ\text{C}$	P_{tot}	100	mW
Junction temperature	T_j	100	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55...+100	$^\circ\text{C}$
Soldering temperature			
2 mm from body, $t \leq 5 \text{ s}$	T_{sd}	260	$^\circ\text{C}$

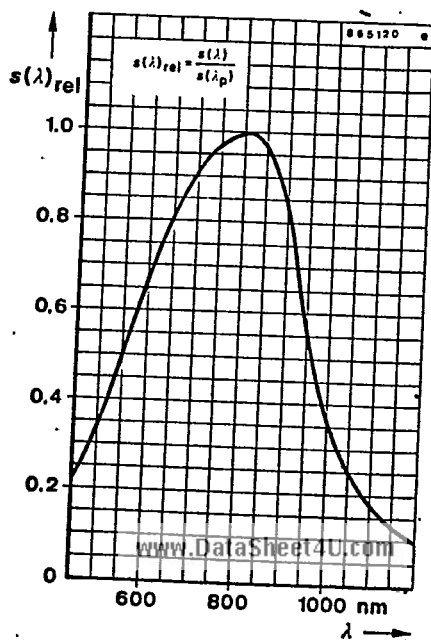
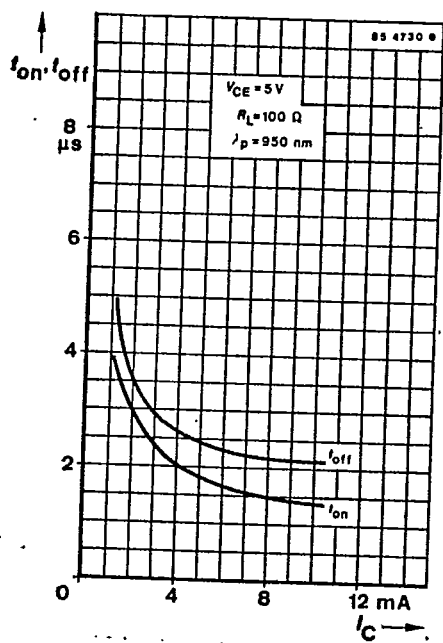
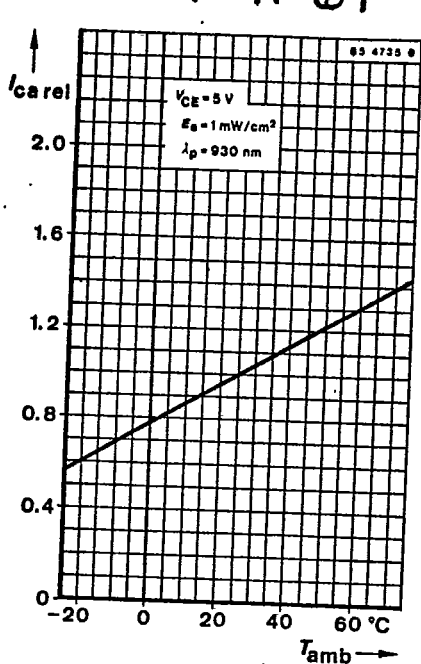
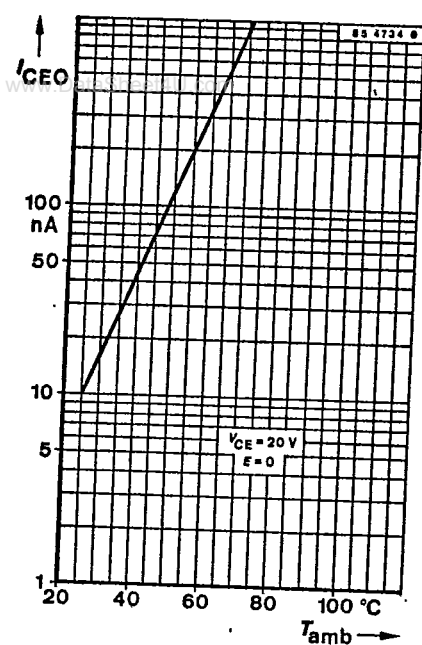
Thermal resistance

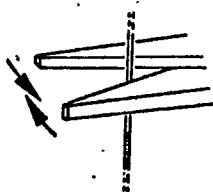
	Min.	Typ.	Max.	
Junction ambient	R_{thJA}		350	K/W

Optical and electrical characteristics

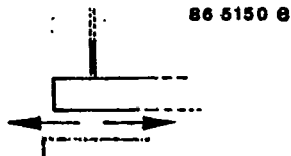
$V_{CE} = 5 \text{ V}, T_{amb} = 25^\circ\text{C}$
unless otherwise specified

Collector dark current				
$V_{CE} = 20 \text{ V}, E = 0$	I_{CEO}	10	200	nA
Collector light current				
$E_s = 1 \text{ mW/cm}^2, \lambda_p = 950 \text{ nm},$ without plastic fiber	I_{cs}	0.4	0.6	mA
$E_s = 1 \text{ mW/cm}^2, \lambda_p = 650 \text{ nm},$ red color radiation without plastic fiber	I_{cs}		0.65	mA
$I_F = 10 \text{ mA}, \lambda_p = 650 \text{ nm},$ red color radiation with $\varnothing 1 \text{ mm}$ plastic fiber	I_{cs}		3	mA
Peak wavelength sensitivity	λ_p		830	nm
Range of spectral bandwidth: (50%)	$\lambda_{0.5}$		560...980	nm
Collector-emitter breakdown voltage				
$I_G = 1 \text{ mA}$	$V_{(BR)CEO}$	70		V
Collector-emitter saturation voltage				
$I_C = 0.1 \text{ mA}, E_s = 1 \text{ mW/cm}^2$	V_{CEsat}		0.3	V
Cut-off frequency				
$V_S = 5 \text{ V}, I_C = 5 \text{ mA}, R_L = 100 \Omega$	f_o		170	kHz
Switching characteristics				
$V_S = 5 \text{ V}, I_C = 5 \text{ mA}, R_L = 100 \Omega,$ red color radiation with $\varnothing 1 \text{ mm}, l = 1 \text{ m}$ plastic fiber	t_r, t_f			μs

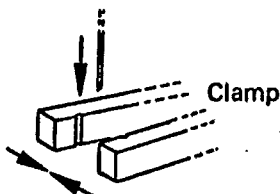




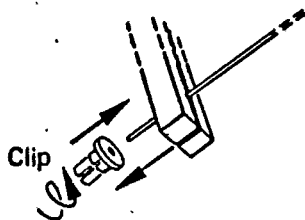
1. Cutting



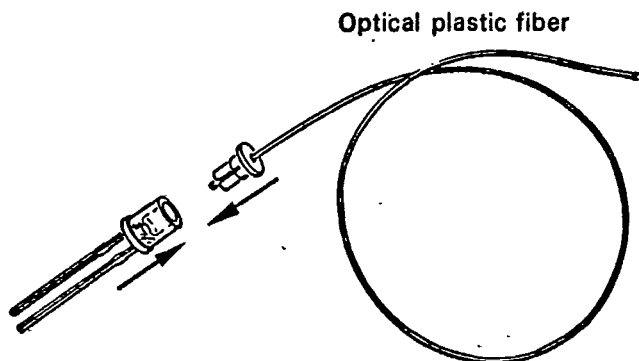
3. Polishing paper 600 grit



2. Rectangular clamping for polishing



4. Insertion into the clip



5. Insertion into the lightpipe component (Emitter/Detector)