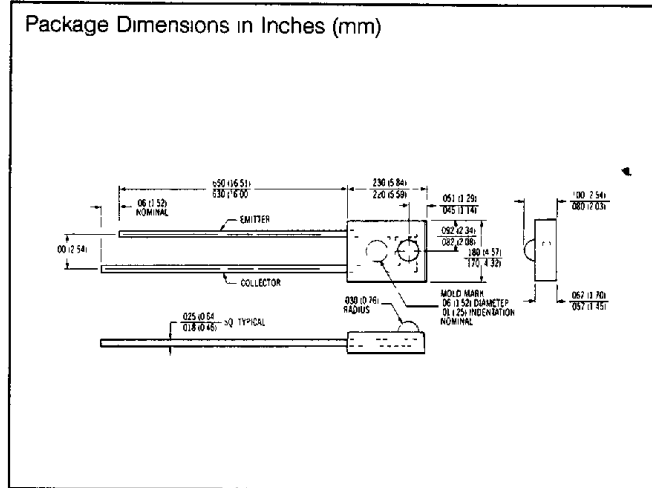
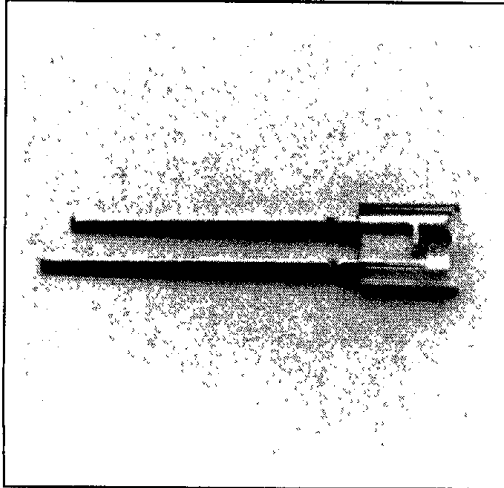


SIEMENS

LPT85A

PHOTOTRANSISTOR

T-41-61



FEATURES

- Low Cost Plastic Package
- Very High Sensitivity
- Matches Infrared Emitter IRL80A and IRL81A

DESCRIPTION

The LPT85A is a plastic, NPN phototransistor. It comes in a lensed, clear plastic, side-facing, miniature package. Its spheric lens was designed to accept light from very wide angles ($\pm 40^\circ$). This sensitive detector is ideal for a wide variety of industrial processing and control applications which require a beam interruption.

Maximum Ratings

Collector-Emitter Voltage	V_{CE0}	30	V
Emitter-Collector Voltage	V_{ECO}	5	V
Collector Current	I_C	50	mA
Storage and Operating Temperature	T	-40 to +100	°C
Maximum Permissible Soldering Temperature Range ($t \leq 5$ sec)	T_S	240	°C
Power Dissipation ($T_{amb} = 25^\circ\text{C}$)	P_{TOT}	100	mW*
*Derate above 25°C linearly		1.33	mW/°C

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

Collector-Emitter Leakage Current ($V_{CE} = 15$ V, $H = 0$)	I_{CEO}	≤ 100	nA
Wavelength of the Max. Sensitivity		870	nm
Acceptance Half Angle	ϕ	± 40	Deg
Breakdown Voltage ($I_C = 100 \mu\text{A}$, $H = 0$ mW/cm ²)	BV_{CEO}	5 V min	@ $I_C = 100 \mu\text{A}$
Photocurrent ⁽¹⁾ ($V_{CE} = 5$ V, $H = 0.5$ mW/cm ²)	I_p	0.9	-mA
Saturation Voltage ($I_C = 250 \mu\text{A}$, $H = 0.5$ mW/cm ²)	$V_{CE(SAT)}$	0.15 V typ	0.4 V max

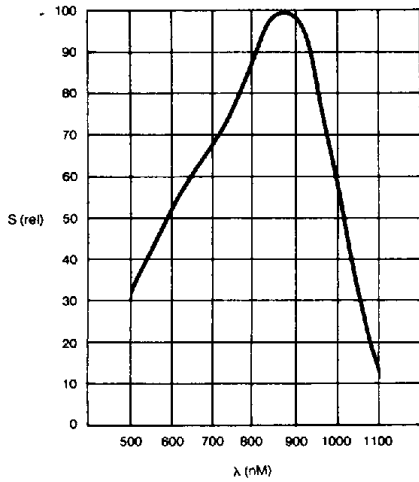
Note 1
The light source is a tungsten filament bulb used in conjunction with a 950 ± 3 nm filter. The mechanical axis of the DUT is aligned with the light source.

Phototransistors/
PhotoDarlington

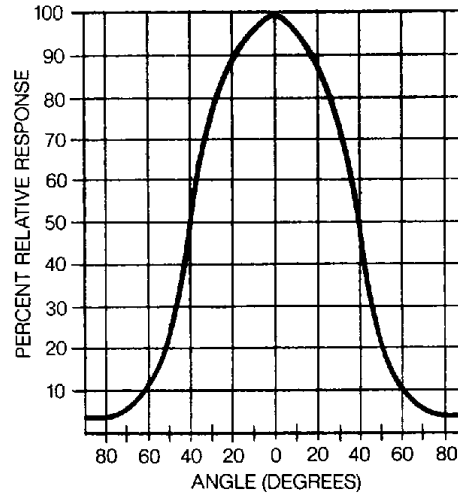
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Typical Optoelectronic Characteristics

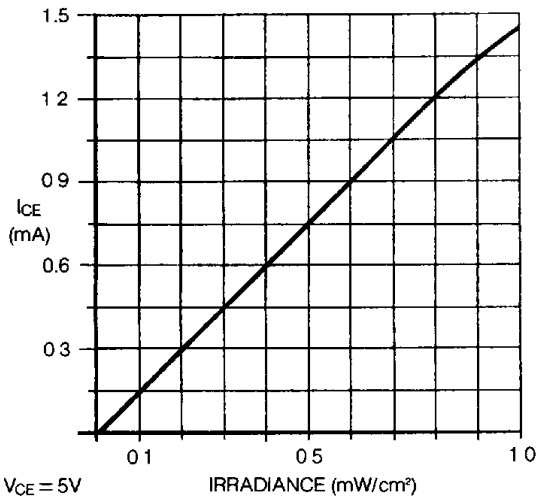
Relative Spectral Sensitivity



Angular Response



I_{CE} versus Irradiance



I_{CE} versus V_{CE}

