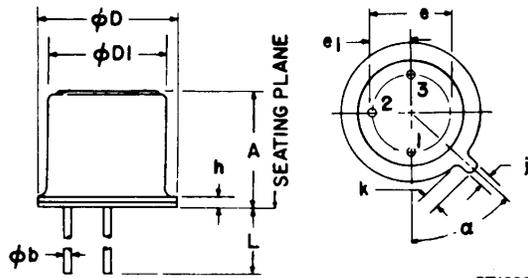


PACKAGE DIMENSIONS



ST1336

DESCRIPTION

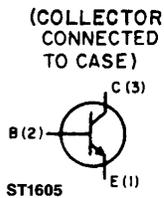
The L14C series is a silicon phototransistor mounted in a wide angle, TO-18 package.

FEATURES

- Hermetically sealed package
- Wide reception angle

SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN.	MAX.	MIN.	MAX.	
A	—	.210	—	5.34	
φb	.016	.021	.406	.534	
φD	.209	.230	5.30	5.85	
φD ₁	.178	.195	4.52	4.96	
e	.100 NOM.	—	2.54 NOM.	—	2
e ₁	.050 NOM.	—	1.27 NOM.	—	2
h	—	.030	—	.76	
j	.036	.046	.91	1.17	
k	.028	.048	.71	1.22	1
L	.500	—	12.7	—	
α	45°	45°	45°	45°	3

PACKAGE OUTLINE

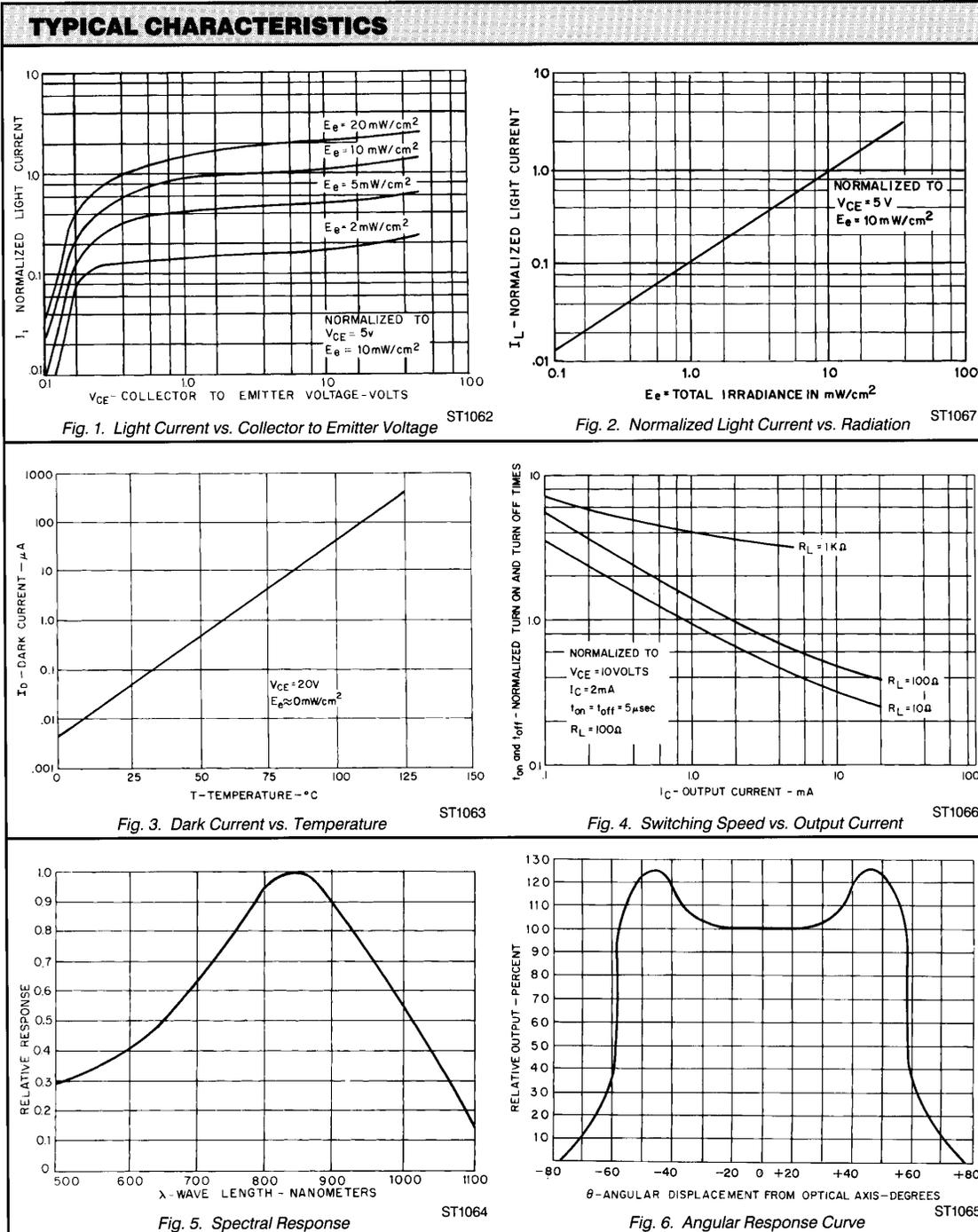


- NOTES:
1. MEASURED FROM MAXIMUM DIAMETER OF DEVICE.
 2. LEADS HAVING MAXIMUM DIAMETER .021" (.533mm) MEASURED IN GAUGING PLANE .054" + .001" - .000 (1.37 + .025 - .000mm) BELOW THE REFERENCE PLANE OF THE DEVICE SHALL BE WITHIN .007" (.778mm) THEIR TRUE POSITION RELATIVE TO MAXIMUM WIDTH TAB.
 3. FROM CENTERLINE TAB.

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ Unless Otherwise Specified)	
Storage Temperature	-65°C to $+150^\circ\text{C}$
Operating Temperature	-65°C to $+125^\circ\text{C}$
Soldering:	
Lead Temperature (Iron)	240°C for 5 sec. ^(3,4,5,6)
Lead Temperature (Flow)	260°C for 10 sec. ^(3,4,6)
Collector-Emitter Breakdown Voltage	50 Volts
Collector-Base Breakdown Voltage	50 Volts
Emitter-Base Breakdown Voltage	7 Volts
Power Dissipation ($T_A = 25^\circ\text{C}$)	300 mW ⁽¹⁾
Power Dissipation ($T_C = 25^\circ\text{C}$)	600 mW ⁽²⁾

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless Otherwise Specified) (All measurements made under pulse conditions.)						
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
Collector-Emitter Breakdown	BV_{CEO}	50	—	—	V	$I_C = 10\text{ mA}$, $E_e = 0$
Emitter-Base Breakdown	BV_{EBO}	7.0	—	—	V	$I_E = 100\mu\text{A}$, $E_e = 0$
Collector-Base Breakdown	BV_{CBO}	50	—	—	V	$I_C = 100\mu\text{A}$, $E_e = 0$
Collector-Emitter Leakage	I_{CEO}	—	—	100	nA	$V_{CE} = 20\text{ V}$, $E_e = 0$
Reception Angle at 1/2 Sensitivity	θ	—	± 40	—	Degrees	
On-State Collector Current L14C1	$I_{C(ON)}$	1.0	—	—	mA	$E_e = 3.0\text{ mW/cm}^2$, $V_{CE} = 5\text{ V}$ ^(7,8)
On-State Collector Current L14C2	$I_{C(ON)}$	0.5	—	—	mA	$E_e = 3.0\text{ mW/cm}^2$, $V_{CE} = 5\text{ V}$ ^(7,8)
On-State Collector Current L14C2	$I_{C(ON)}$	1.0	—	—	mA	$E_e = 6.0\text{ mW/cm}^2$, $V_{CE} = 5\text{ V}$ ^(7,8)
Turn-On Time	t_{on}	—	5	—	μS	$I_C = 2\text{ mA}$, $V_{CC} = 10\text{ V}$, $R_L = 100\Omega$
Turn-Off Time	t_{off}	—	5	—	μS	$I_C = 2\text{ mA}$, $V_{CC} = 10\text{ V}$, $R_L = 100\Omega$
Saturation Voltage	$V_{CE(SA1)}$	—	—	0.40	V	$I_C = 0.40\text{ mA}$, $E_e = 6.0\text{ mW/cm}^2$ ^(7,8)

NOTES
1. Derate power dissipation linearly $3.00\text{ mW}/^\circ\text{C}$ above 25°C ambient.
2. Derate power dissipation linearly $6.00\text{ mW}/^\circ\text{C}$ above 25°C case.
3. RMA flux is recommended.
4. Methanol or Isopropyl alcohols are recommended as cleaning agents.
5. Soldering iron tip $1/16"$ (1.6 mm) minimum from housing.
6. As long as leads are not under any stress or spring tension.
7. Light source is a GaAs LED emitting light at a peak wavelength of 940 nm.
8. Figure 1 and figure 2 use light source of tungsten lamp at 2870°K color temperature. A GaAs source of 3.0 mW/cm^2 is approximately equivalent to a tungsten source, at 2870°K , of 10 mW/cm^2 .





HERMETIC SILICON PHOTOTRANSISTOR

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