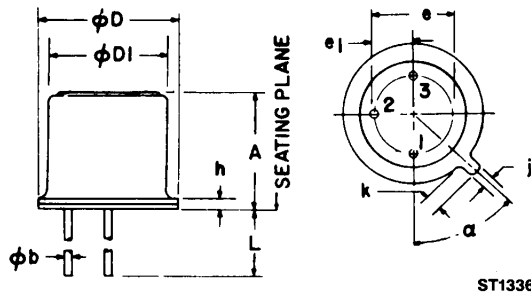


**PACKAGE DIMENSIONS**



ST1336

**DESCRIPTION**

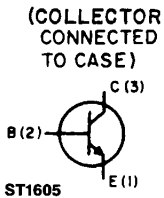
The L14C series is a silicon phototransistor mounted in a wide angle, TO-18 package.

**FEATURES**

- Hermetically sealed package
- Wide reception angle

SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN.	MAX.	MIN.	MAX.	
A	—	.210	—	5.34	
$\phi b$	.016	.021	.406	.534	
$\phi D$	.209	.230	5.30	5.85	
$\phi D1$	.178	.195	4.52	4.96	
e	.100 NOM.	—	2.54 NOM.	—	2
e1	.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	—	
$\alpha$	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.



## HERMETIC SILICON PHOTOTRANSISTOR

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

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25^\circ\text{C}$ 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	$\theta$		$\pm 40$		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		$\mu\text{S}$	$I_C = 2\text{ mA}$ , $V_{CC} = 10\text{ V}$ , $R_L = 100\Omega$
Turn-Off Time	$t_{off}$		5		$\mu\text{S}$	$I_C = 2\text{ mA}$ , $V_{CC} = 10\text{ V}$ , $R_L = 100\Omega$
Saturation Voltage	$V_{CE(SA1)}$	—		0.40	V	$I_C = 0.40\text{ mA}$ , $E_e = 6.0\text{ mW/cm}^2^{(7,8)}$

<b>NOTES</b>
1. Derate power dissipation linearly $3.00\text{ mW}/^\circ\text{C}$ above $25^\circ\text{C}$ ambient.
2. Derate power dissipation linearly $6.00\text{ mW}/^\circ\text{C}$ above $25^\circ\text{C}$ 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 $2870^\circ\text{K}$ color temperature. A GaAs source of $3.0\text{ mW/cm}^2$ is approximately equivalent to a tungsten source, at $2870^\circ\text{K}$ , of $10\text{ mW/cm}^2$ .

**TYPICAL CHARACTERISTICS**

