

Fig. 1 - Power Dissipation Limit vs. Ambient Temperature

BASIC CHARACTERISTICS						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Collector emitter breakdown voltage	$I_C = 1 \text{ mA}$	$V_{(BR)CEO}$	70			V
Collector emitter dark current	$V_{CE} = 20 \text{ V}, E = 0$	$I_{CEO}$		1	200	nA
Collector emitter capacitance	$V_{CE} = 5 \text{ V}, f = 1 \text{ MHz}, E = 0$	$C_{CEO}$		3		pF
Collector lighth current	$E_e = 1 \text{ mW/cm}^2, \lambda = 950 \text{ nm}, V_{CE} = 5 \text{ V}$	$I_{ca}$	0.25	0.5		mA
Angle of half sensitivity		$\phi$		$\pm 60$		deg
Wavelength of peak sensitivity		$\lambda_p$		850		nm
Range of spectral bandwidth		$\lambda_{0.1}$		450 to 1080		nm
		$\lambda_{0.5}$		620 to 980		nm
Collector emitter saturation voltage	$E_e = 1 \text{ mW/cm}^2, \lambda = 950 \text{ nm}, I_C = 0.1 \text{ mA}$	$V_{CEsat}$		0.15	0.3	V
Rise time, fall time	$V_S = 5 \text{ V}, I_C = 1 \text{ mA}, \lambda = 950 \text{ nm}, R_L = 1 \text{ k}\Omega$	$t_r/t_f$		6		$\mu\text{s}$
	$V_S = 5 \text{ V}, I_C = 1 \text{ mA}, \lambda = 950 \text{ nm}, R_L = 100 \Omega$	$t_r/t_f$		2		$\mu\text{s}$
Cut-off frequency	$V_S = 5 \text{ V}, I_C = 2 \text{ mA}, R_L = 100 \Omega$	$f_c$		180		kHz

## Note

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

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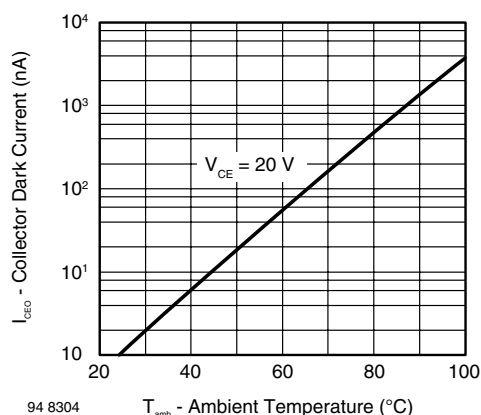


Fig. 2 - Collector Dark Current vs. Ambient Temperature

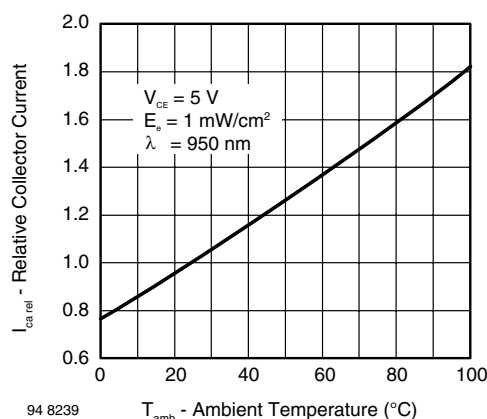


Fig. 3 - Relative Collector Current vs. Ambient Temperature

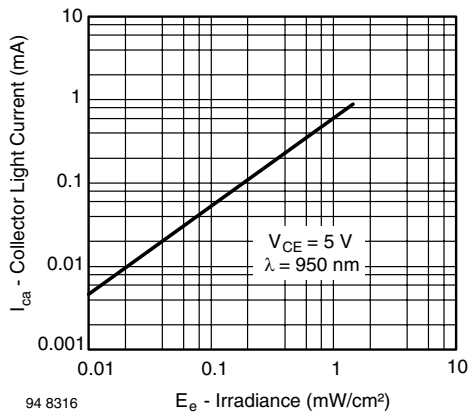


Fig. 4 - Collector Light Current vs. Irradiance

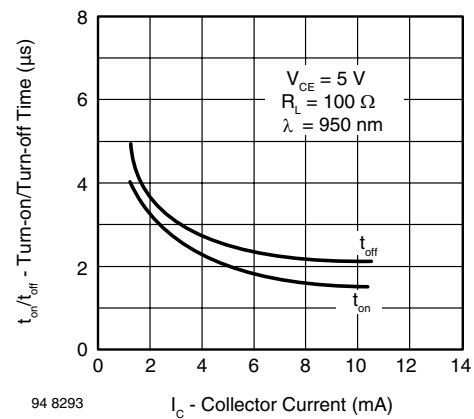


Fig. 7 - Turn-on/Turn-off Time vs. Collector Current

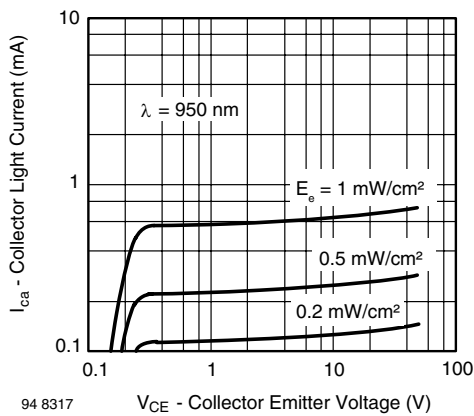


Fig. 5 - Collector Light Current vs. Collector Emitter Voltage

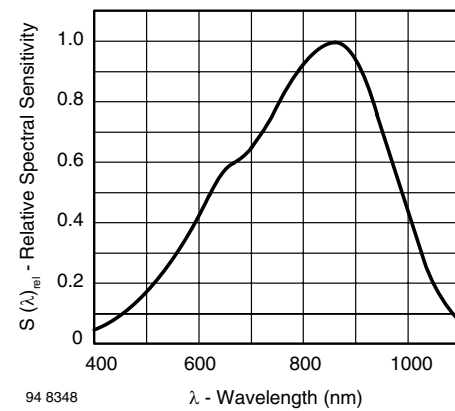


Fig. 8 - Relative Spectral Sensitivity vs. Wavelength

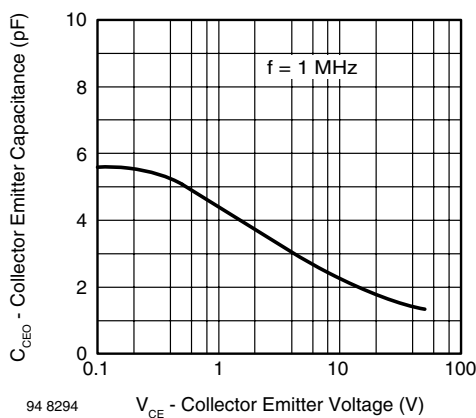


Fig. 6 - Collector Emitter Capacitance vs. Collector Emitter Voltage

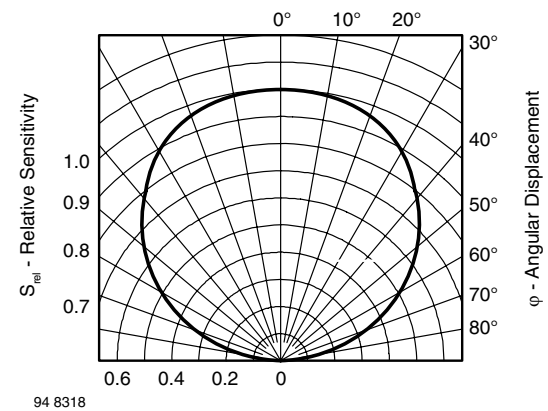
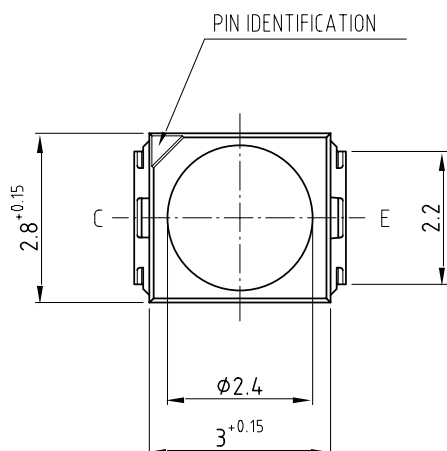
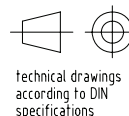
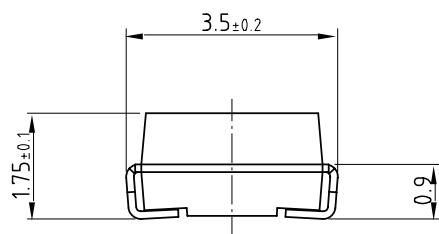
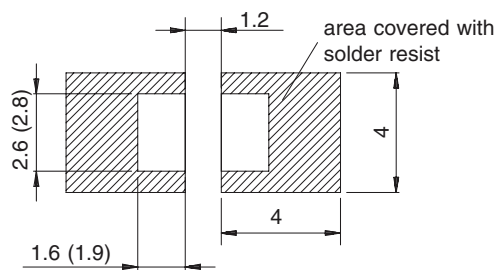


Fig. 9 - Relative Radiant Sensitivity vs. Angular Displacement

## PACKAGE DIMENSIONS in millimeters



## Mounting Pad Layout



Drawing-No.: 6.541-5025.03-4  
Issue: 5; 21.11.05  
20350

## SOLDER PROFILE

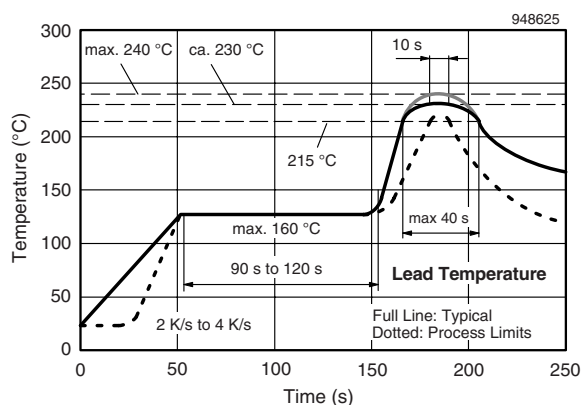


Fig. 10 - Lead Tin (SnPb) Reflow Solder Profile

## DRYPACK

Devices are packed in moisture barrier bags (MBB) to prevent the products from moisture absorption during transportation and storage. Each bag contains a desiccant.

## FLOOR LIFE

Floor life (time between soldering and removing from MBB) must not exceed the time indicated on MBB label:

Floor life: 1 year

Conditions:  $T_{amb} < 30\text{ °C}$ ,  $RH < 60\%$

Moisture sensitivity level 2, acc. to J-STD-020.

## DRYING

In case of moisture absorption devices should be baked before soldering. Conditions see J-STD-020 or label. Devices taped on reel dry using recommended conditions 192 h at  $40\text{ °C}$  ( $+5\text{ °C}$ ),  $RH < 5\%$ .

## TAPE AND REEL

PLCC-2 components are packed in antistatic blister tape (DIN IEC (CO) 564) for automatic component insertion. Cavities of blister tape are covered with adhesive tape.

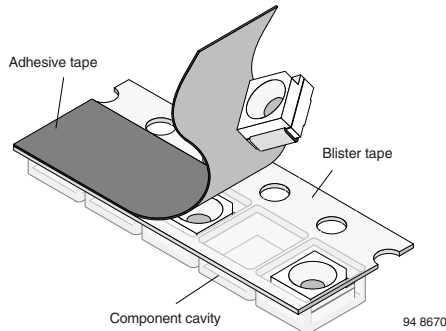


Fig. 11 - Blister Tape

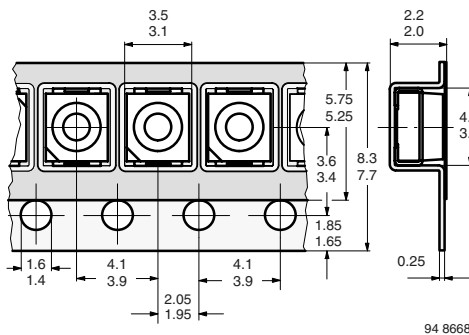


Fig. 12 - Tape Dimensions in mm for PLCC-2

## MISSING DEVICES

A maximum of 0.5 % of the total number of components per reel may be missing, exclusively missing components at the beginning and at the end of the reel. A maximum of three consecutive components may be missing, provided this gap is followed by six consecutive components.

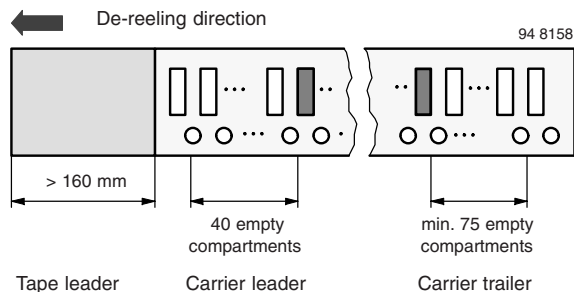


Fig. 13 - Beginning and End of Reel

The tape leader is at least 160 mm and is followed by a carrier tape leader with at least 40 empty compartments. The tape leader may include the carrier tape as long as the cover tape is not connected to the carrier tape. The least component is followed by a carrier tape trailer with a least 75 empty compartments and sealed with cover tape.

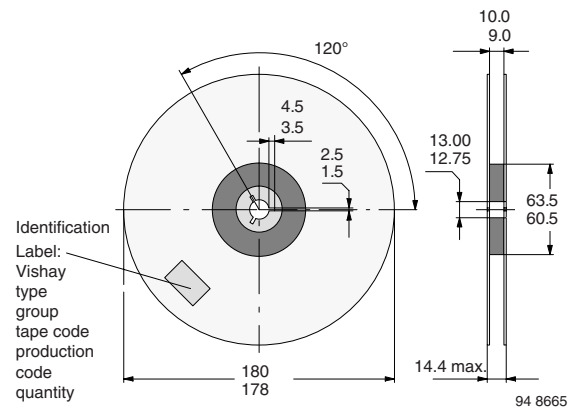


Fig. 14 - Dimensions of Reel-GS08

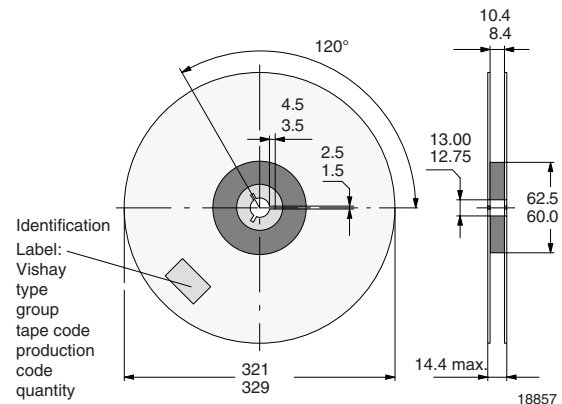


Fig. 15 - Dimensions of Reel-GS18

## COVER TAPE REMOVAL FORCE

The removal force lies between 0.1 N and 1.0 N at a removal speed of 5 mm/s. In order to prevent components from popping out of the blisters, the cover tape must be pulled off at an angle of 180° with regard to the feed direction.



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