

# iC-TL85 TO46-2F

Infrared LED



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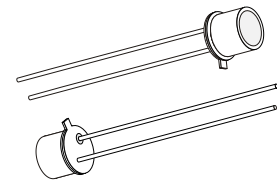
## FEATURES

- ◆ Emission peak at 850 nm matched to silicon sensors
- ◆ Temperature range -40 to 125 °C
- ◆ High optical output power
- ◆ Fast switching speed
- ◆ TO-46 package with flat window for high reliability
- ◆ ROHS conform

## APPLICATIONS

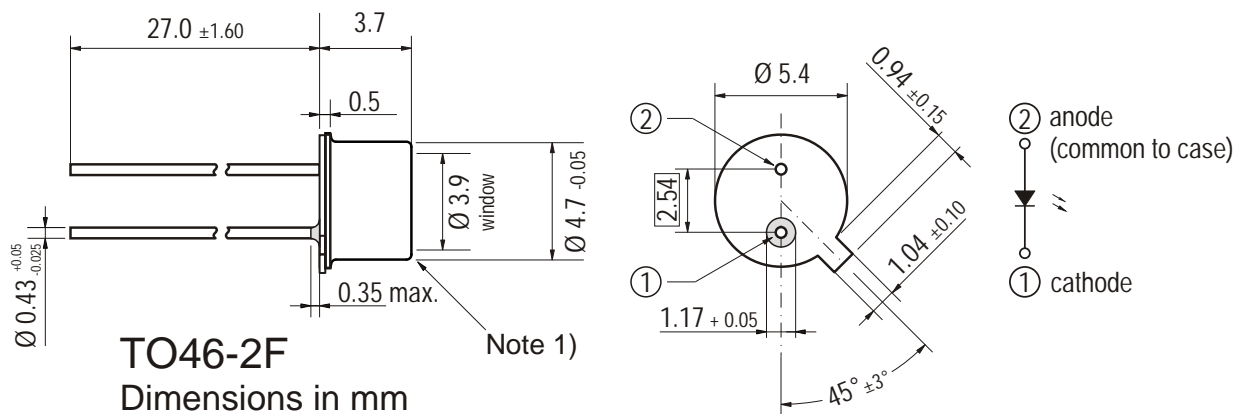
- ◆ Illumination for high resolution optical encoder
- ◆ Modulated light barriers

## PACKAGES



TO46-2F

## DIMENSIONAL OUTLINE



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### ABSOLUTE MAXIMUM RATINGS

Beyond these values damage may occur ( $T_a = 25^\circ\text{C}$ , unless otherwise noted)

Item No.	Symbol	Parameter	Conditions			Unit
				Min.	Max.	
G001	IF	Forward current (DC)			100	mA
G002	IFSM	Surge forward current	$t_p \leq 10\mu\text{s}$ , 5 % duty cycle		1500	mA
G003	VR	Reverse voltage			5	V
G004	P	Power dissipation			150	mW
G005	Tj	Junction temperature		-40	125	$^\circ\text{C}$

### THERMAL DATA

Item No.	Symbol	Parameter	Conditions				Unit
				Min.	Typ.	Max.	
T01	Ta	Operating Ambient Temperature Range		-40		125	$^\circ\text{C}$
T02	Ts	Storage Temperature Range		-40		125	$^\circ\text{C}$
T03	Tpk	Soldering Temperature	$t_{pk} < 5\text{ s}$ , 3 mm from case			260	$^\circ\text{C}$
T04	Rthja	Thermal Resistance Junction To Ambient			350		K/W

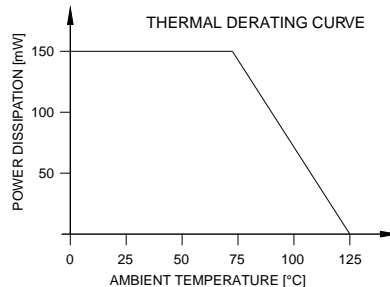


Figure 1: Maximum power dissipation with respect to temperature

### ELECTRICAL CHARACTERISTICS

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

Item No.	Symbol	Parameter	Conditions				Unit
				Min.	Typ.	Max.	
<b>Electrical and Optical Characteristics</b>							
001	VF	Forward voltage	IF = 20 mA		1.4	1.8	
002	VR	Reverse voltage	IR = 5 $\mu\text{A}$	5			V
003	$\Phi_e$	Radiant power	IF = 20 mA	1.7	2.7		mW
004	TK( $\Phi_e$ )	Temperature coefficient of radiant power	IF = 20 mA, $T_{amb} = 25^\circ\text{C} \dots 125^\circ\text{C}$		-0.6		%/K
005	$\lambda_p$	Peak wavelength	IF = 20 mA	840	850	860	nm
006	$\Delta\lambda$	Spectral half width	IF = 20 mA		30		nm
008	tr, tf	Switching time	IF = 20 mA		12		ns

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We understand suitable application of our published designs to be state-of-the-art technology which can no longer be classed as inventive under the stipulations of patent law. Our explicit application notes are to be treated only as mere examples of the many possible and extremely advantageous uses our products can be put to.

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## ORDERING INFORMATION

Type	Package	Order Designation
iC-TL85	TO46-2F	iC-TL85 TO46-2F

For technical support, information about prices and terms of delivery please contact:

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**Appointed local distributors: [http://www.ichaus.com/sales\\_partners](http://www.ichaus.com/sales_partners)**