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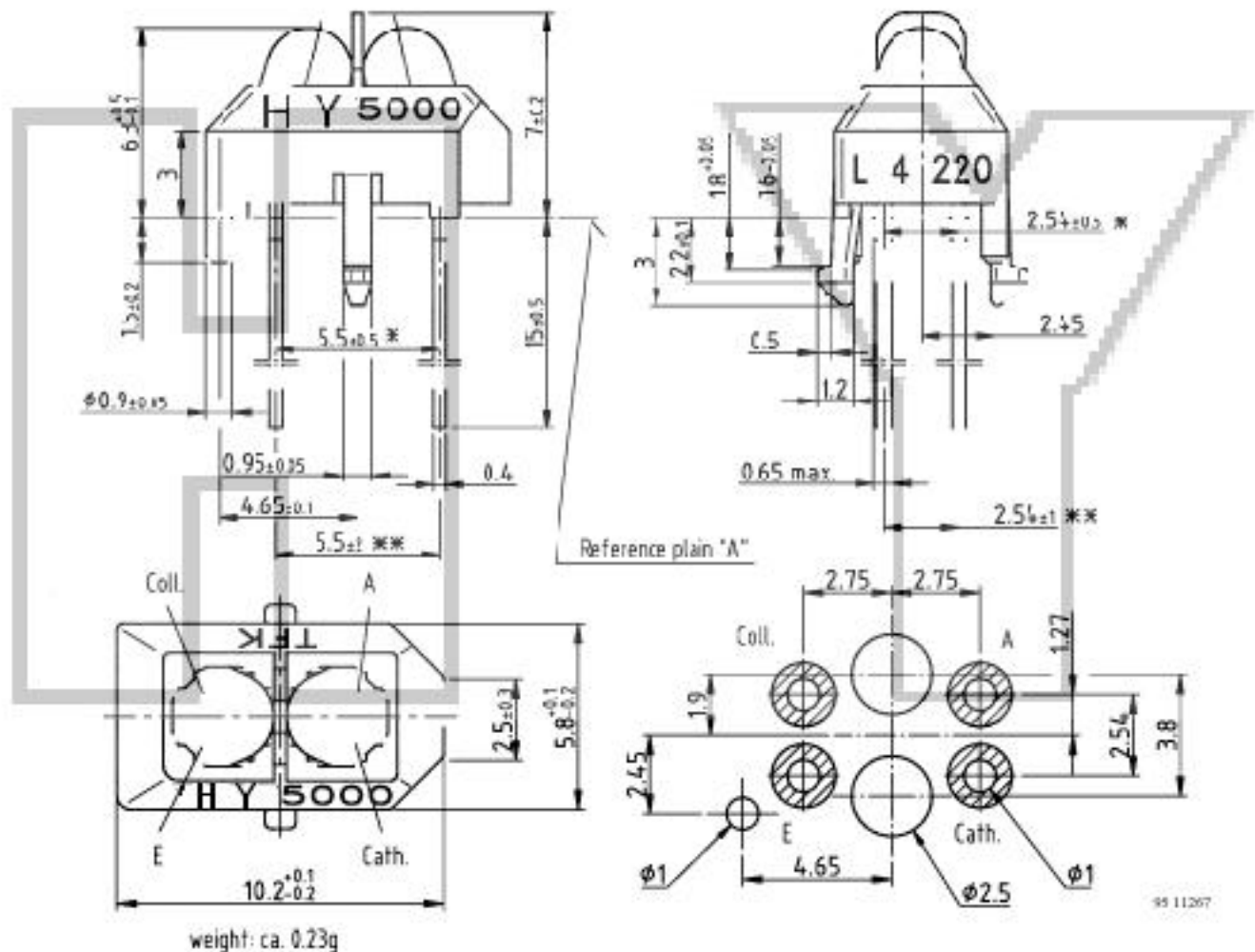
深圳市華強北路華強電子世界二棟 21C126 室 [Http://www.hyzt.com](http://www.hyzt.com) E-mail: [hyzt@hyzt.com](mailto:hyzt@hyzt.com)

**FEATURES**

- \* NON-CONTACT SWITCHING.
- \* FOR DIRECT PC BOARD OR DUAL-IN-LINE SOCKET MOUNTING.
- \* FAST SWITCHING SPEED.

**PACKAGE DIMENSIONS**

**HY5000/TL**



**NOTES:**

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25mm(.010") unless otherwise noted.

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#### PACKAGE DIMENSIONS

##### Order Instruction

Ordering Code	Sensing Distance	Remarks
TCRT5000	12 mm	Leads (3.5 mm)
TCRT5000(L)	12 mm	Long leads (15 mm)

##### Absolute Maximum Ratings

###### Input (Emitter)

Parameter	Test Conditions	Symbol	Value	Unit
Reverse voltage		$V_R$	5	V
Forward current		$I_F$	60	mA
Forward surge current	$t_p \leq 10 \mu\text{s}$	$I_{FSM}$	3	A
Power dissipation	$T_{amb} \leq 25^\circ\text{C}$	$P_V$	100	mW
Junction temperature		$T_J$	100	$^\circ\text{C}$

###### Output (Detector)

Parameter	Test Conditions	Symbol	Value	Unit
Collector emitter voltage		$V_{CEO}$	70	V
Emitter collector voltage		$V_{ECO}$	5	V
Collector current		$I_C$	100	mA
Power dissipation	$T_{amb} \leq 55^\circ\text{C}$	$P_V$	100	mW
Junction temperature		$T_J$	100	$^\circ\text{C}$

###### Sensor

Parameter	Test Conditions	Symbol	Value	Unit
Total power dissipation	$T_{amb} \leq 25^\circ\text{C}$	$P_{tot}$	200	mW
Operation temperature range		$T_{amb}$	-25 to +85	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	-25 to +100	$^\circ\text{C}$
Soldering temperature	2 mm from case, $t \leq 10 \text{ s}$	$T_{sd}$	260	$^\circ\text{C}$

##### NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25\text{mm} (.010")$  unless otherwise noted.

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## PACKAGE DIMENSIONS

### Typical Characteristics ( $T_{amb} = 25^{\circ}\text{C}$ , unless otherwise specified)

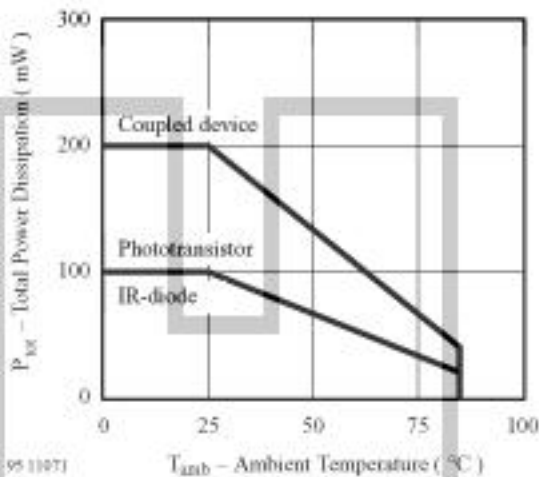


Figure 3. Total Power Dissipation vs. Ambient Temperature

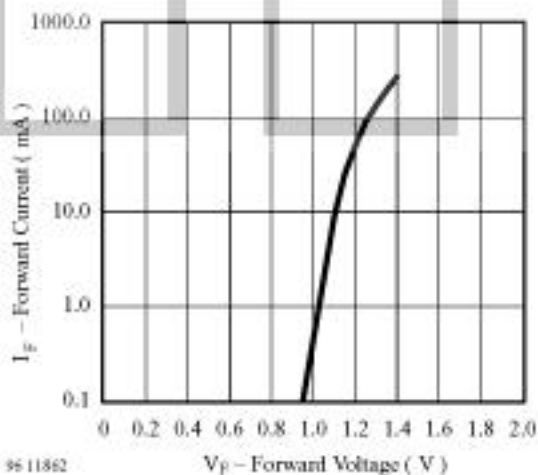


Figure 4. Forward Current vs. Forward Voltage

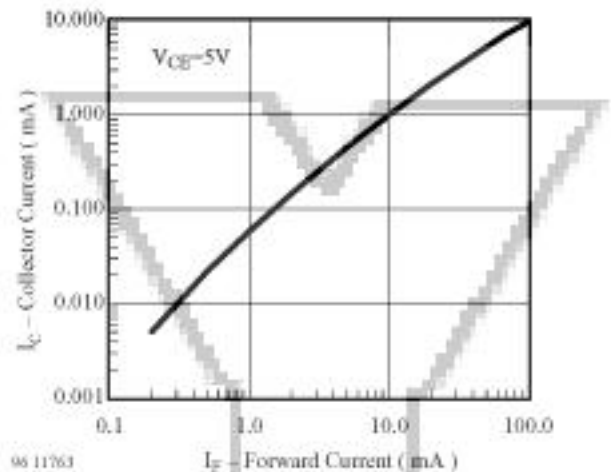


Figure 6. Collector Current vs. Forward Current

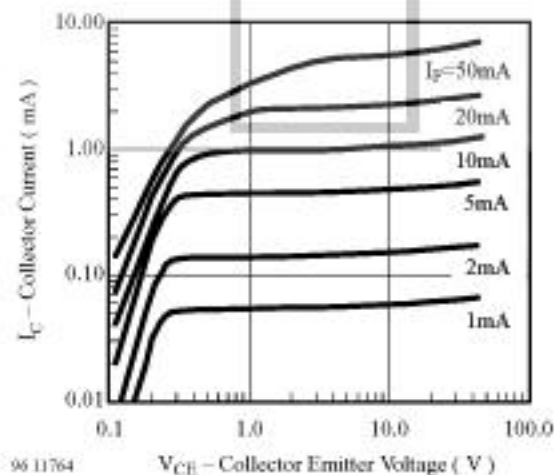


Figure 7. Collector Emitter Saturation Voltage vs. Collector Current

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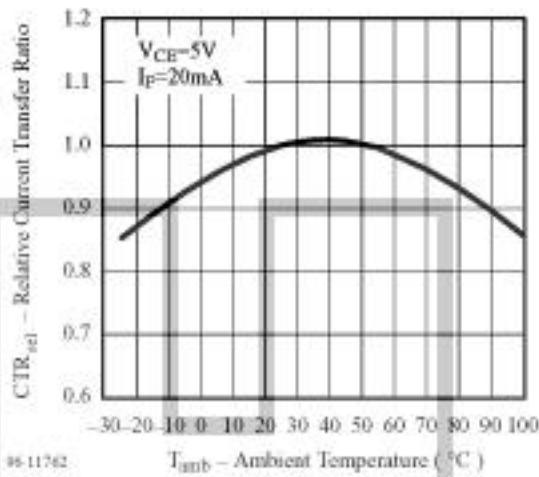


Figure 5. Rel. Current Transfer Ratio vs. Ambient Temp.

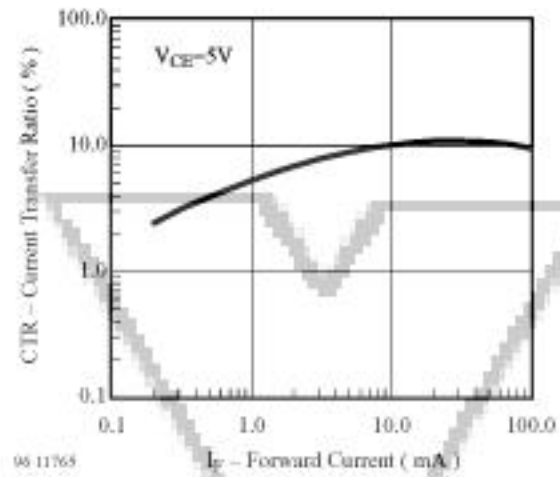


Figure 8. Current Transfer Ratio vs. Forward Current

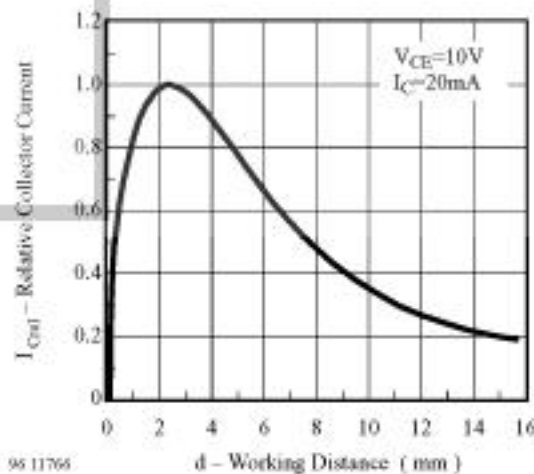


Figure 9. Relative Collector vs. Distance