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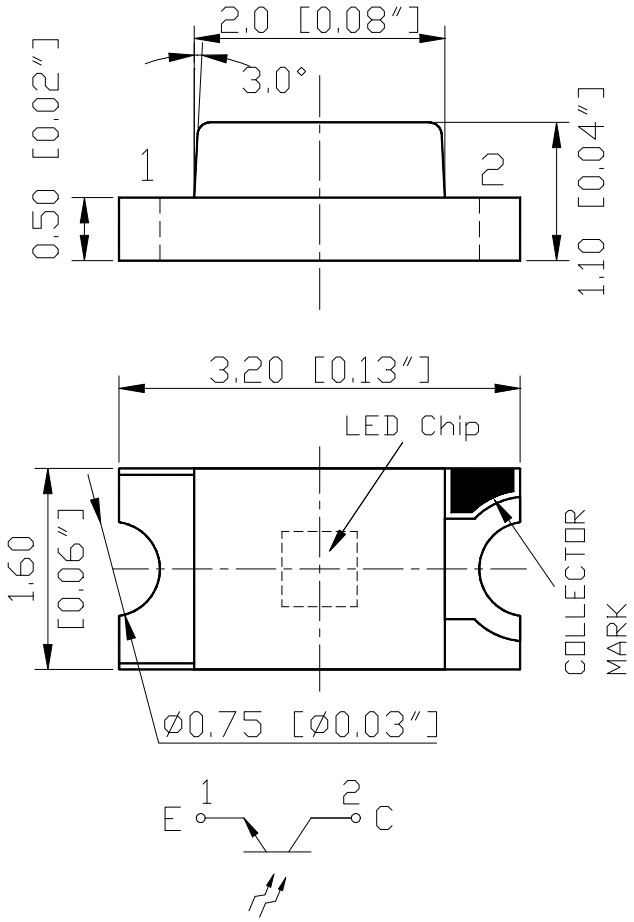
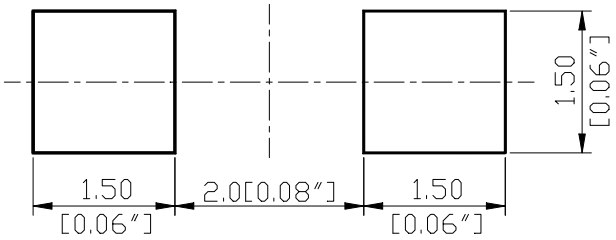
Part Number: P150M4

Package outlines



RECOMMEND PAD LAYOUT



ITEM	MATERIALS
Resin (mold)	Epoxy
Bonding Wire	Ø 30 μm Au
Lens color	Water transparent
Printed circuit board	BT (white)
Dice	Silicon

NOTES:

1. All dimensions are in millimeters (inches);
2. Tolerances are ±0.1mm (0.004inch) unless otherwise noted.

Rev :	Date	Drawn by :	Checked by :	Approved by :
D	2005-6-7			

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Absolute maximum ratings (T_A=25℃)

Parameter	Symbol	Value	Unit
Power dissipation	P_D	100	mW
Collector-emitter voltage	V_{CEO}	30	V
Emitter-collector voltage	V_{ECO}	5	V
Operating temperature range	T_{OP}	-20 ~+80	℃
Storage temperature range	T_{STG}	-20 ~+80	℃

Electro-optical characteristics (T_A=25℃)

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Collector-emitter breakdown voltage	I_C = 100μA I_B= 0	$V_{(BR)\ CEO}$	30	--	--	V
Emitter-collector breakdown voltage	I_E= 100μA I_B= 0	$V_{(BR)\ ECO}$	5	--	--	V
Collector-emitter saturation voltage	I_C=2 mA I_B=100μA	$V_{CE\ (SAT)}$	--	--	0.3	V
Rise time	V_{CE} = 5V I_C=1 mA R_L = 1000Ω F=100Hz	T_R	--	15	--	μS
Fall time		T_F	--	15	--	μS
Collector dark current	V_{CE} = 20V E_e = 0mW/cm^2	I_{CEO}	--	--	100	nA
On state collector current	V_{CE} = 5V, D=6mm P_D = 0.5mW λ =940nm I_{LED}=20mA	$I_{(ON)}$	1.0	2.0	--	mA

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OPTICAL CHARACTERISTIC CURVES

FIG.1 COLLECTOR DARK CURRENT
VS. AMBIENT TEMPERATURE

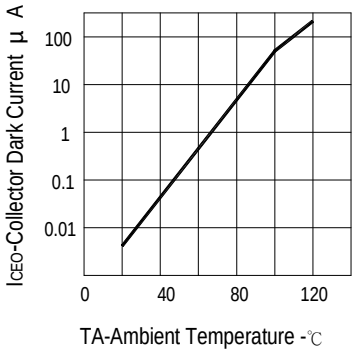


FIG.2 NORMALIZED COLLECTOR CURRENT
VS. AMBIENT TEMPERATURE

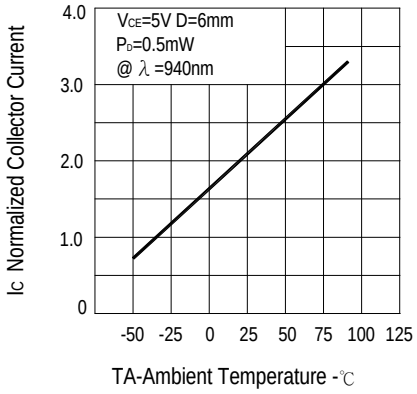


FIG.3 RISE AND FALL TIME
VS. LOAD RESISTANCE

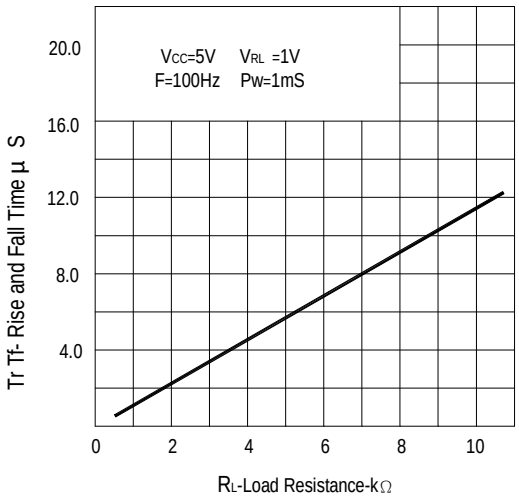
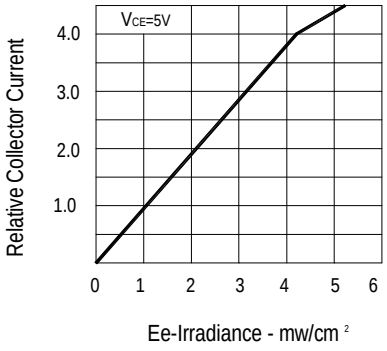
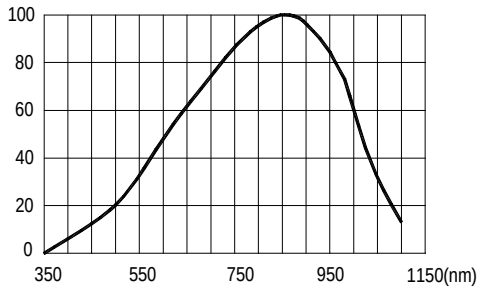


FIG.4 RELATIVE COLLECTOR
CURRENT VS. IRRADIANCE



Relative Spectral Response (%)



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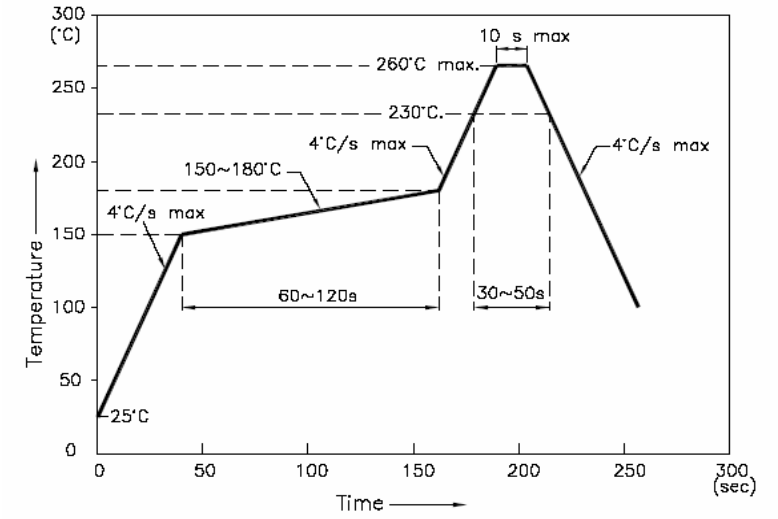
Reflow Profile

■ Reflow Temp/Time



NOTES:

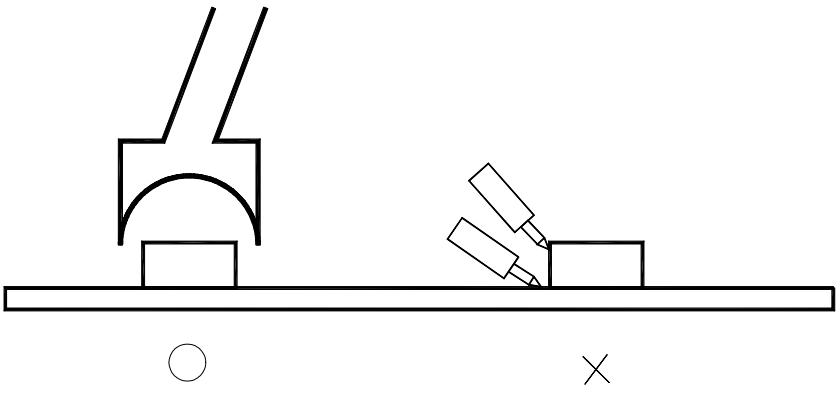
1. We recommend the reflow temperature 245℃(±5℃).the maximum soldering temperature should be limited to 260℃.
2. dont cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

■Soldering iron

Basic spec is ≤ 5sec when 260℃. If temperature is higher, time should be shorter (+10℃→ -1sec).Power dissipation of iron should be smaller than 15W, and temperatures should be controllable .Surface temperature of the device should be under 230℃ .

■Rework

1. Customer must finish rework within 5 sec under 260℃.
2. The head of iron can not touch copper foil
3. Twin-head type is preferred.



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Test circuit and handling precautions

■ Handling precautions

1. Over-current-proof

Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

2.Storage

2.1 It is recommended to store the products in the following conditions:

Humidity: 60% R.H. Max.

Temperature : 5℃~30℃(41℉~86℉)

2.2 Shelf life in sealed bag: 12 month at ＜5℃~30℃ and ＜30% R.H. after the package is Opened, the products should be used within a week or they should be keeping to stored at ≦20 R.H. with zip-lock sealed.

3.Baking

It is recommended to baking before soldering when the pack is unsealed after 72hrs. The Conditions are as followings:

3.1 60±3℃ x(12~24hrs) and ＜5%RH, taped reel type

3.2 100±3℃ x(45min~1hr), bulk type

3.3 130±3℃ x(15~30min), bulk type