

Part Number: KB354NT

Customer Part Number: KB354NT

Kingbright

PHOTOCOUPLER

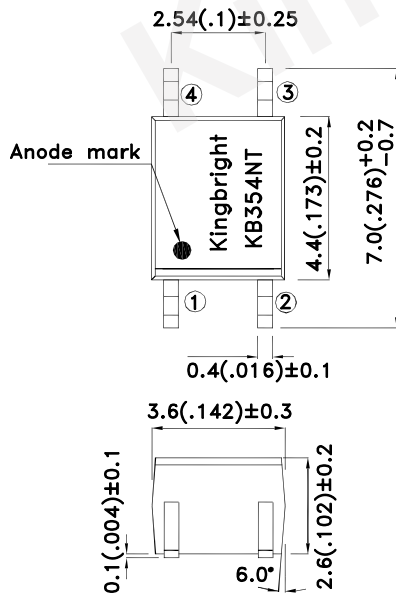
Features

- 1.AC inputs.
- 2.High current transfer ratio.
- 3.Opaque type, mini-flat package.
- 4.Subminiature type (The volume is smaller than that of our conventional DIP type by as far as 30%).
- 5.Isolation voltage between input and output Viso:3750Vrms.
- 6.Emloys double transfer mold technology.
- 7.Recognized by UL and CUL, file NO.E225308.
- 8.Approved by VDE 0884 Teil2(NO:40017614).
- 9.Package : 1000Pcs / Reel.
- 10.Moisture sensitivity level : level 4.
- 11.RoHS Compliant.

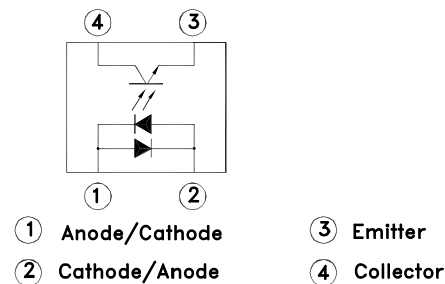
Applications

- 1.Hybrid substrates that require high density mounting.

*PACKAGE DIMENSIONS (UNIT:mm) SMD Type



Internal connection diagram



UNIT : MM[INCH]
TOLERANCE : $\pm 0.5[\pm 0.02]$ UNLESS OTHERWISE NOTED.



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Kingbright**PHOTOCOUPLER*****Absolute Maximum Ratings (Ta=25°C)**

Parameter		Symbol	Rating	Unit
Input	Forward current	IF	±50	mA
	Power dissipation	P	70	mW
Output	Collector-emitter voltage	V _{CEO}	35	V
	Emitter-collector voltage	V _{ECO}	6	V
	Collector current	IC	50	mA
	Collector power dissipation	P _c	150	mW
Total power dissipation		P _{tot}	170	mW
*1 Isolation voltage		V _{iso}	3750	V _{rms}
Operating temperature		T _{opr}	-30 to +100	°C
Storage temperature		T _{stg}	-40 to +125	°C
*2 Soldering temperature		T _{sol}	260	°C

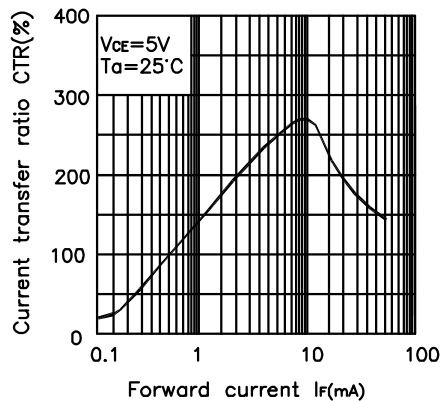
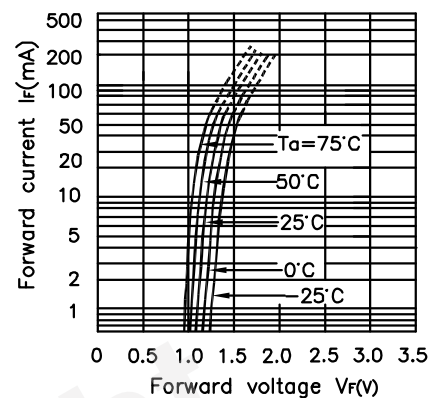
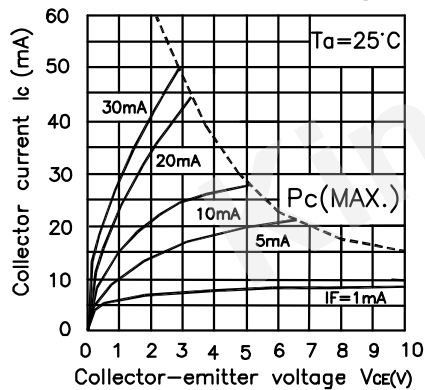
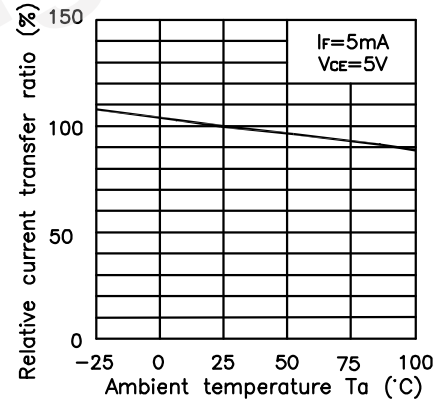
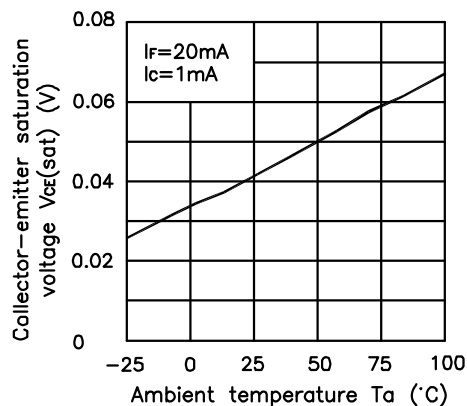
*1 40 to 60%RH, AC for1 minute.

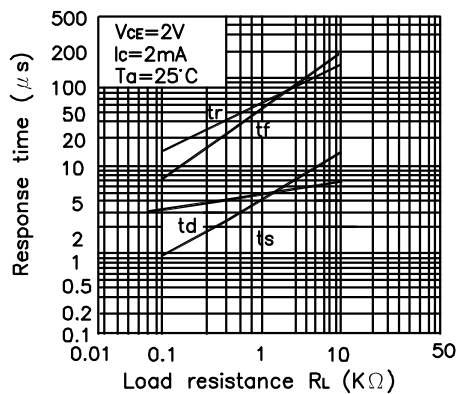
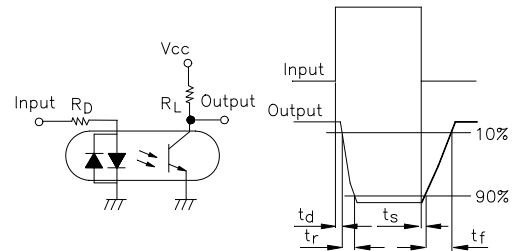
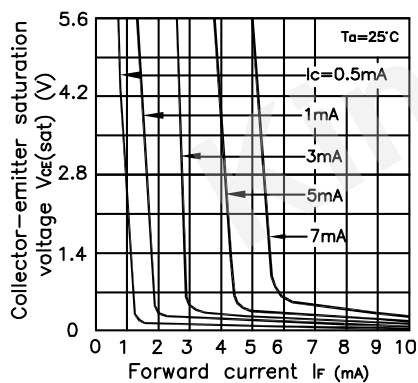
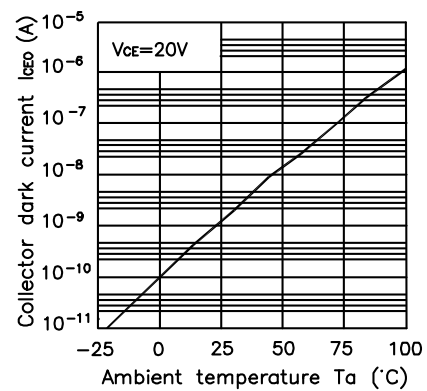
*2 For 10 seconds.

***Electro-optical Characteristics**

Parameter			Symbol	Conditions	Min.	Typ.	Max.	Unit
Input	Forward voltage		V _F	I _F =± 20mA	-	1.2	1.4	V
	Peak forward voltage		V _{FM}	I _{FM} =0.5A	-	-	3.0	V
Output	Collector dark current		I _{CEO}	V _{ce} =20V I _F =0	-	-	10 ⁻⁷	A
	Collector-emitter breakdown voltage		BV _{CEO}	I _C =0.1mA I _F =0	35	-	-	V
	Emitter-collector breakdown voltage		BV _{ECO}	I _E =10uA I _F =0	6	-	-	V
Transfer characteristics	Current transfer ration		CTR	I _F =± 1mA V _{ce} =5V	20	-	400	%
	Collector-emitter saturation voltage		V _{CE (sat)}	I _F =± 20mA I _C =1mA	-	0.1	0.2	V
	Response time	Rise time	t _r	V _{ce} =2V I _C =2mA R _L =100Ω	-	4	18	uS
		Fall time	t _f		-	3	18	uS

Model No.	Rank mark	CTR(%)
KB354N1T	A	50 to 150
KB354NT	L	20 to 50
	A	50 to 150
	B	150 to 300

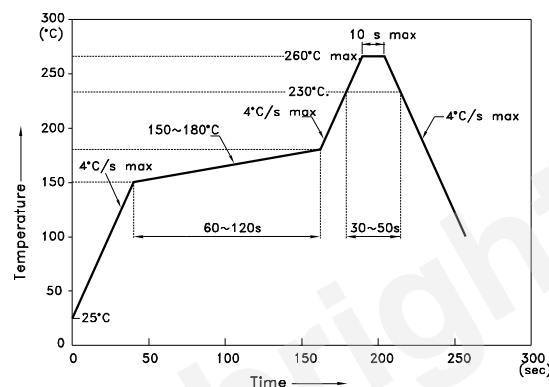
Kingbright**PHOTOCOUPLER****Fig. 1 Current Transfer vs. Forward Current****Fig. 2 Forward Current vs. Forward voltage****Fig. 3 Collector Current vs. Collector-emitter Voltage****Fig. 4 Forward Current vs. Ambient Temperature****Fig. 5 Collector-emitter Saturation Voltage vs. Ambient Temperature**

Kingbright**PHOTOCOUPLER****Fig. 6 Response Time vs. Load Resistance****Test Circuit for Response Time****Fig. 7 Collector-emitter Saturation Voltage vs. Forward Current****Fig. 8 Collector Dark Current vs. Ambient Temperature**

Kingbright**PHOTOCOUPLER*****NOTES ON HANDLING****1.Cautions regarding noise**

Be aware that power is suddenly into the componment any surge current may cause damage happen, even if the voltage is within the absolute maximum ratings.

Reflow Soldering Profile For Lead-free SMT Process.

**NOTES:**

1. We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

CAUTION

Within this device there exists GaAs (Gallium Arsenide) material which is a harmful substance if ingested. GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them.

RESTRICTIONS ON PRODUCT USE

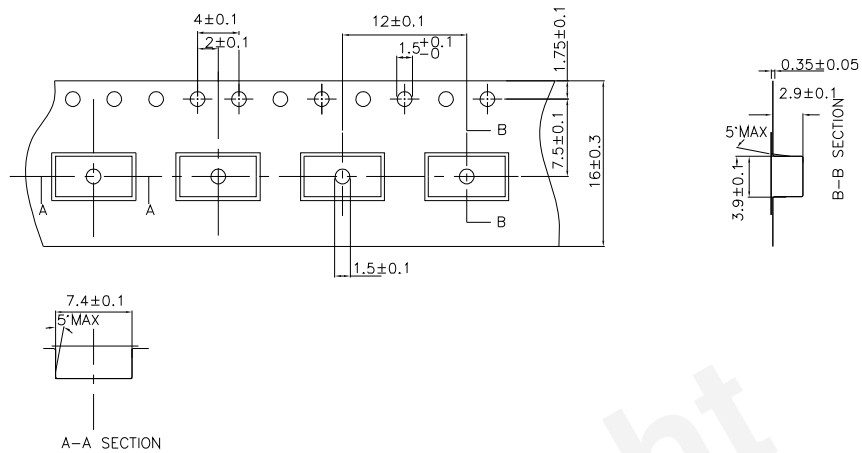
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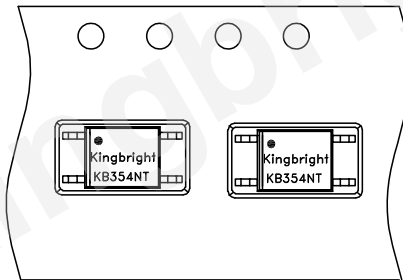
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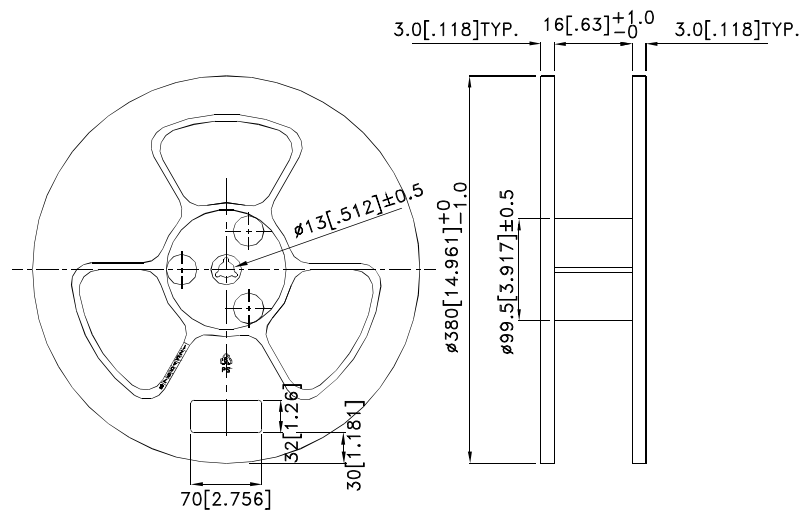
Outline and Dimension (Tape) (Units : mm)



Tape Direction



Outline and Dimension (Reel)



Packing:1000pcs/reel

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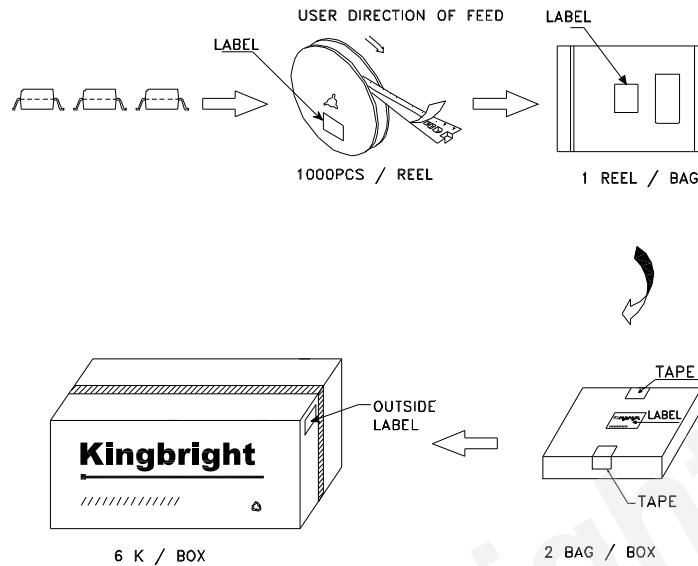
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PHOTOCOUPLER

PACKING & LABEL SPECIFICATIONS

KB354NT



Kingbright	
P/NO: KB354xxx	
QTY: 1000 pcs	Q.C. Q C XX XX XXXX PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:  XXXXXXXXXX	
RoHS Compliant	

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