

Part Number: KB354NT

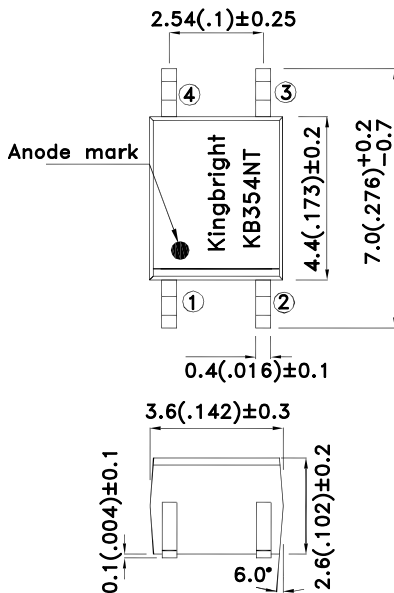
Features

- 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.RoHS Compliant.

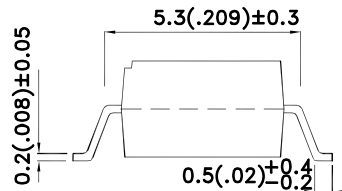
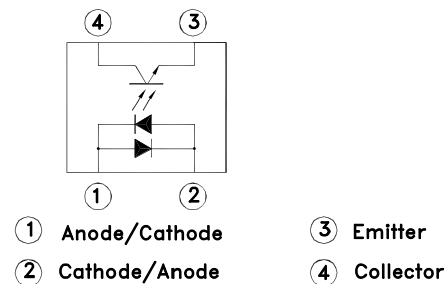
Applications

- 1.Hybrid substrates that require high density mounting.
- 2.Programmable controllers.

*PACKAGE DIMENSIONS (UNIT:mm) SMD Type



Internal connection diagram



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



*Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I _F	±50	mA
	Power dissipation	P	70	mW
Output	Collector-emitter voltage	V _{CEO}	35	V
	Emitter-collector voltage	V _{ECO}	6	V
	Collector current	I _C	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 for 1 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 60
	A	50 to 150
	B	130 to 400

Fig. 1 Current Transfer vs. Forward Current

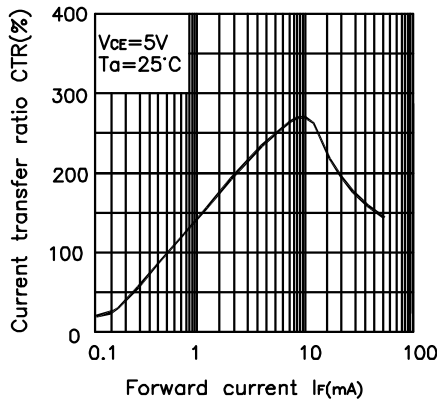


Fig. 2 Forward Current vs. Forward voltage

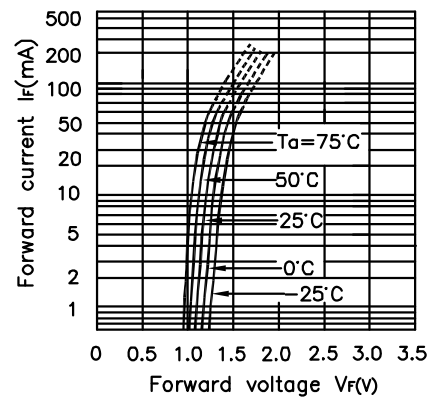


Fig. 3 Collector Current vs. Collector-emitter Voltage

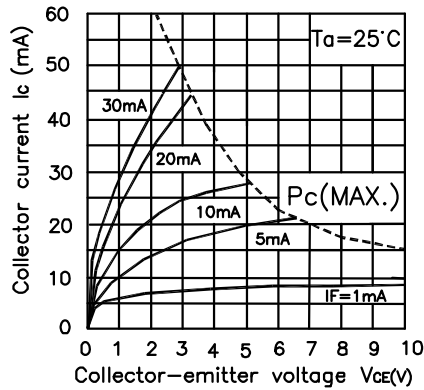


Fig. 4 Forward Current vs. Ambient Temperature

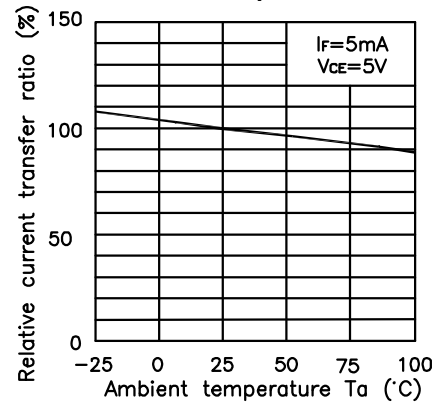


Fig. 5 Collector-emitter Saturation Voltage vs. Ambient Temperature

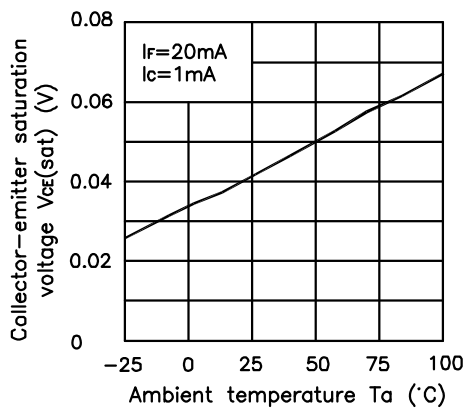
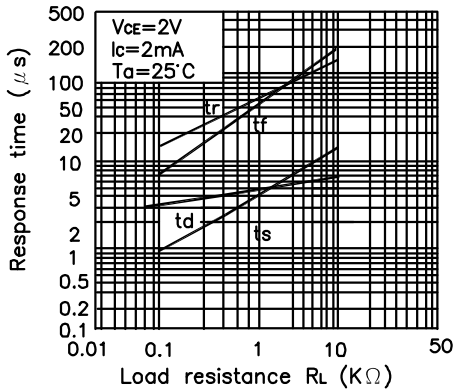


Fig. 6 Response Time vs. Load Resistance



Test Circuit for Response Time

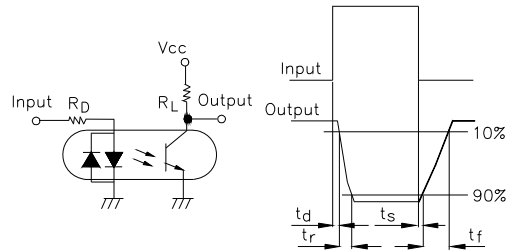


Fig. 7 Collector-emitter Saturation Voltage vs. Forward Current

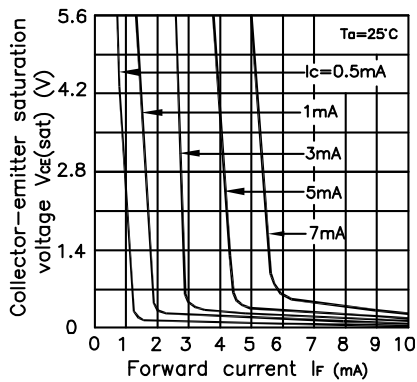
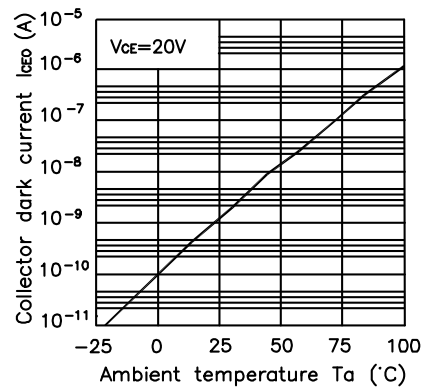


Fig. 8 Collector Dark Current vs. Ambient Temperature



* NOTES ON HANDLING

1.Recommended soldering conditions (Dip soldering)

(1) Dip soldering

Temperature	260°C or below (molten solder temperature)
Time	Less than 10 seconds.
Cycle	One cycle allowed to be dipped in solder including plastic mold portion.
Flux	Rosin flux containing small amount of chlorine (The flux with a maximum chlorine content of 0.2 Wt % is recommended.)

(2) Cautions

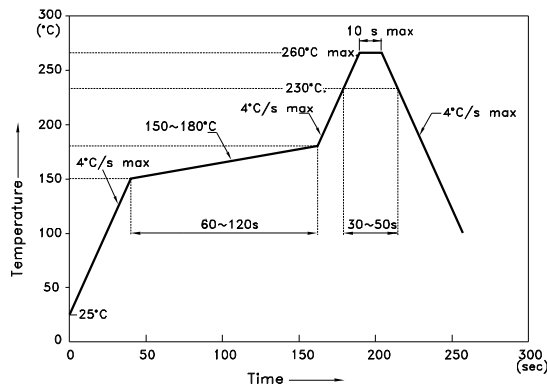
Fluxes

Avoid removing the residual flux with freon-based and chlorine-based cleaning solvent.

2.Cautions regarding noise

Be aware that power is suddenly into the component 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

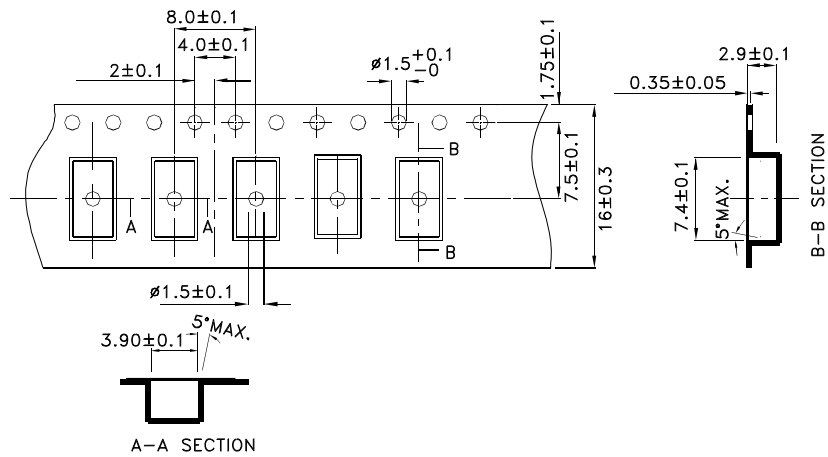
Within this device there exists GaAs (Gallium Arsenide) material which is a harmful substance if ingested. GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them.

RESTRICTIONS ON PRODUCT USE

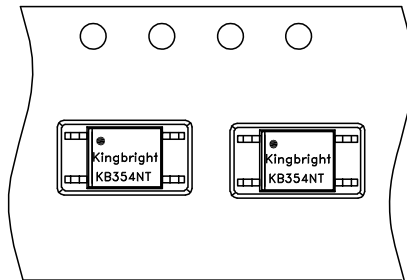
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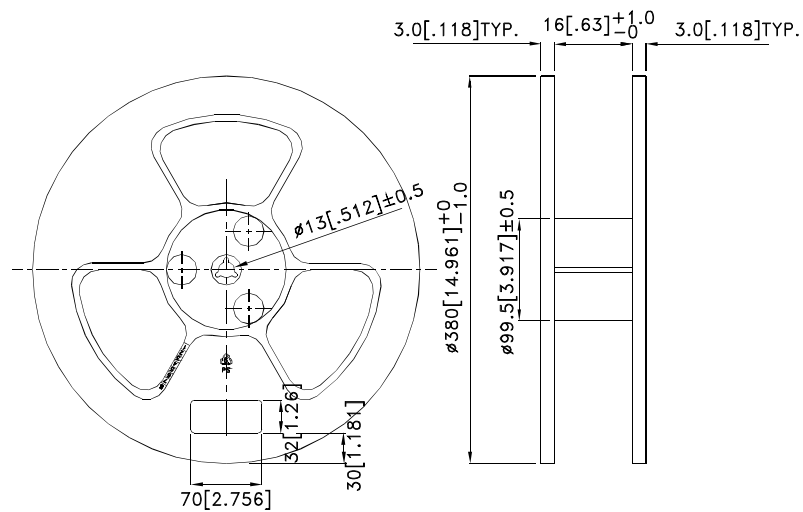
Outline and Dimension (Tape) (Units : mm)



Tape Direction

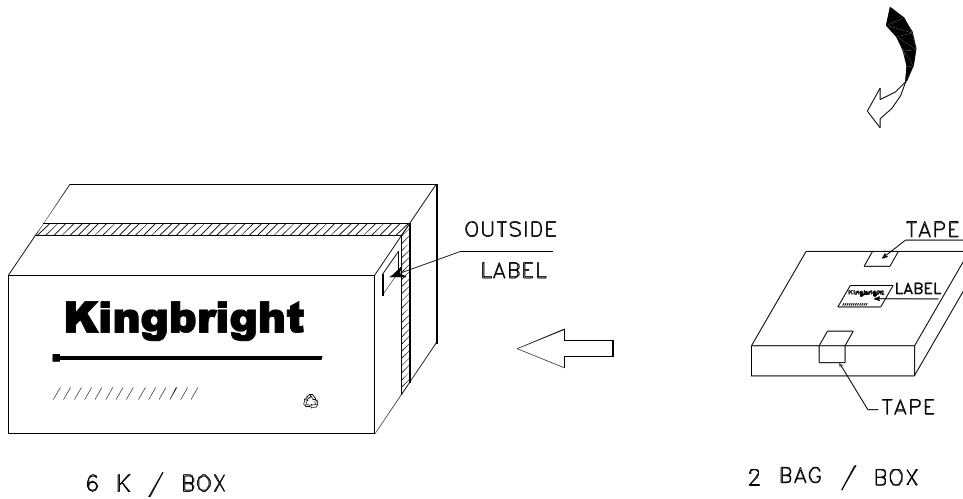
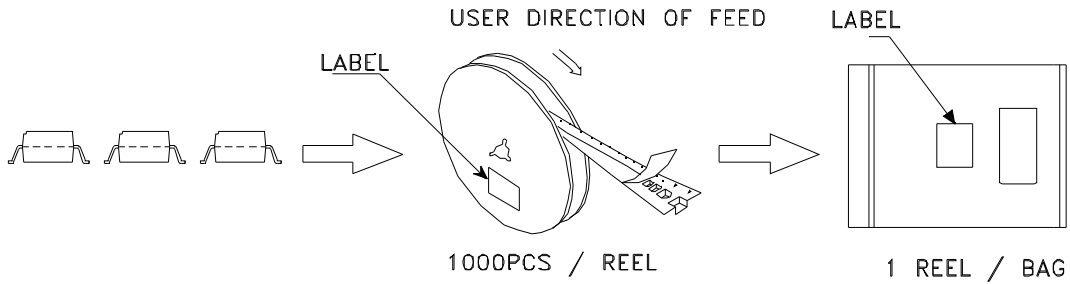



Outline and Dimension (Reel)



Packing: 1000pcs/reel

Part Number: KB354NT



<h1>Kingbright</h1>	
P/NO: KB354xxx	
QTY: 1000 pcs	Q.C. Q C XX XX XXXX PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
 XXXXXXXXXXXX	
RoHS Compliant	