KB356NT

Features

1.High collector-emitter Voltage.

2.Opaque type,mini-flat package.

3.Subminiature type (The volume is smaller than that of our conventional DIP type by as far as 30%).

4.Isolation voltage between input and output Viso:3750Vrms.

5.Employs double transfer mold technology.

6.Recognized by UL and CUL, file NO.E225308.

7.Packge : 1000Pcs / Reel.

8.RoHS Compliant.

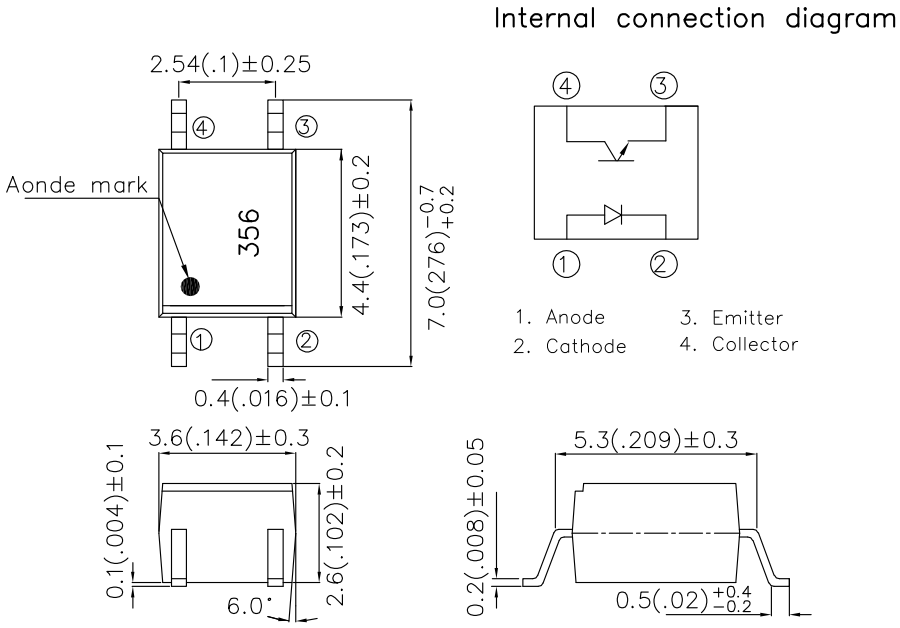
Applications

1.Hybrid substrates that require high density mounting.

2.Programmable controllers.

*__PACKAGE DIMENSIONS (UNIT:mm)__

__SMD Type__



UNIT : MM[INCH]

TOLERANCE : ±0.5[±0.02] UNLESS OTHERWISE NOTED.

*Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Reverse Voltage	V_R	6	V
	Power dissipation	P	70	mW
Output	Collector-emitter voltage	V_{CEO}	80	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	Vrms
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
	Reverse current		I_R	$V_{R=4V}$	-	-	10	uA
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	80	-	-	V
	Emitter-collector breakdown voltage		BV_{ECO}	I_E=10uA I_F=0	6	-	-	V
Transfer charact-eristics	Current transfer ration		CTR	I_F=5mA Vce=5V	50	-	600	%
	Collector-emitter saturation voltage		VCE (sat)	I_F=20mA IC=1mA	-	0.1	0.2	V
	Response time	Rise time	T_r	V_{ce} = 2V IC=2mA RL=100Ω	-	6	-	uS
		Fall time	T_r		-	8	-	uS

Model No.	Rank mark	CTR(%)
KB356NLT	L	50 to 100
KB356N1T	A	80 to 160
KB356N2T	B	130 to 260
KB356N3T	C	200 to 400
KB356N4T	D	300 to 600
KB356N5T	A or B	80 to 260
KB356N6T	B or C	130 to 400
KB356N7T	C or D	200 to 600
KB356N8T	A,B or C	80 to 400
KB356N9T	B,C or D	130 to 600
KB356N0T	A,B,C or D	80 to 600
KB356NT	L,A,B,C,D or No mark	50 to 600

Fig. 1 Current Transfer vs. Forward Current

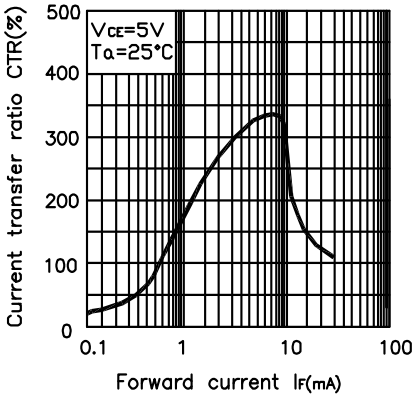


Fig. 2 Forward Current vs. Forward voltage

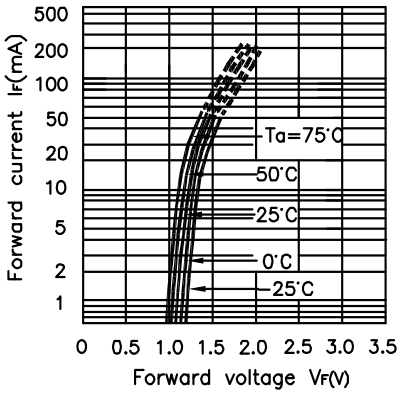


Fig. 3 Collector Current vs. Collector-emitter Voltage

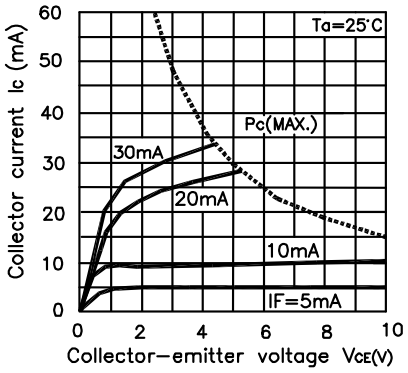


Fig. 4 Relative Current Transfer Ratio vs.Ambient Temperature

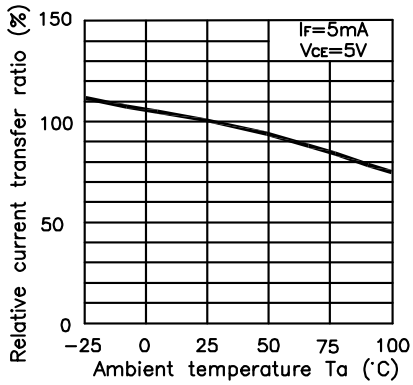


Fig. 5 Collector-emitter Saturation Voltage vs. Ambient Temperature

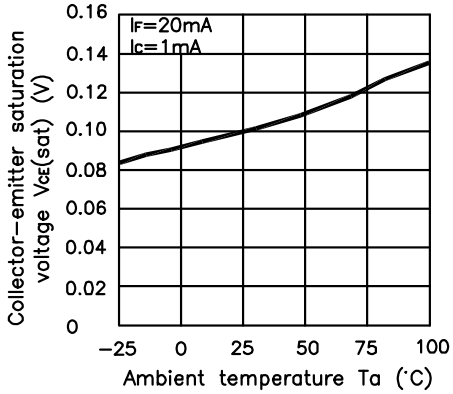


Fig. 6 Response Time vs. Load Resistance

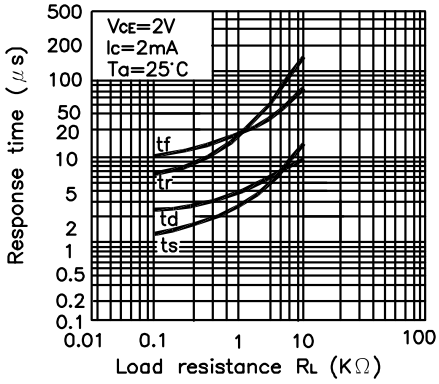


Fig. 7 Collector-emitter Saturation Voltage vs. Forward Current

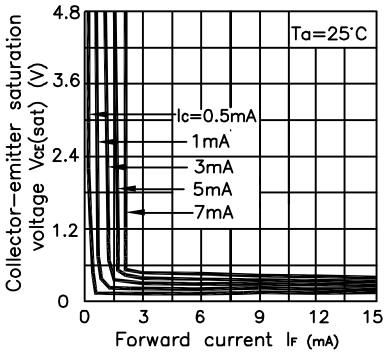
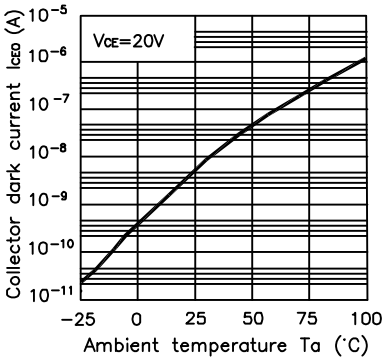
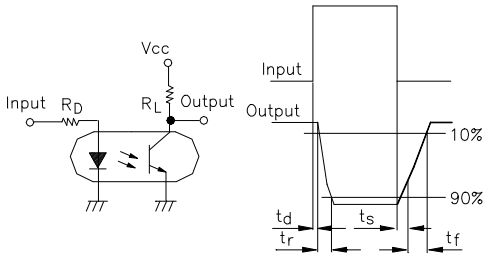


Fig. 8 Collector Dark Current vs. Ambient Temperature



Test Circuit for Response Time



* NOTES ON HANDLING

1.Recommended soldering conditions (Dip soldering)

(1) Dip soldering

Temperature	260 or below (molten solder temperature)
Time	Less than 10 seconds.
Cycle	One cycle allowed to be dipped in solder including plastic nold 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.

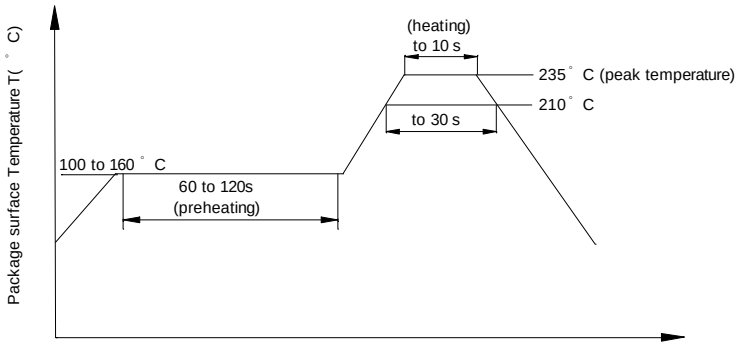
NOTES ON HANDLING

1.Recommended soldering conditions

(1).Infrared reflow soldering

- Peak reflow temperature 235 ° C or below(package surface temperature)
- Time of temperature higher than 210 ° C 30 seconds or less
- Number or reflows Three
- Flux Rosin flux containing small amount of chlorine(The flux with a maximum chlorine content of 0.2Wt % is recommended.)

Recommended Temperature Profile of infrared Reflow



CAUTION

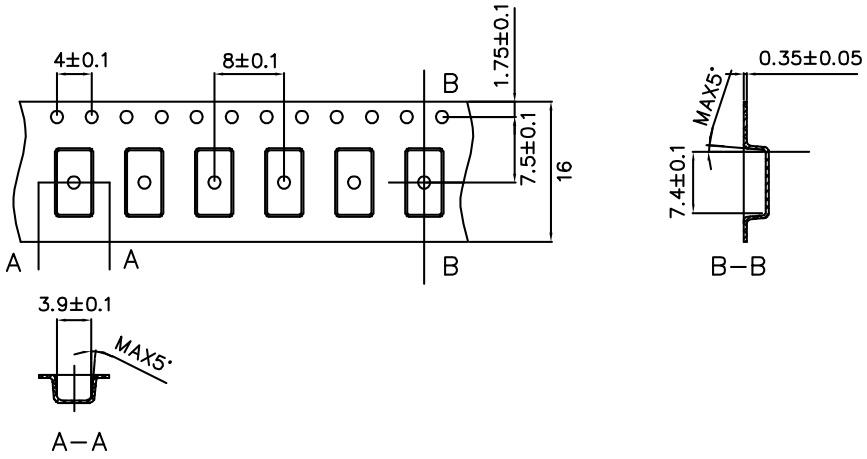
Within this device there exists GaAs (Gallium Arsenide) material which is a harmful substance if ingested.

GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them.

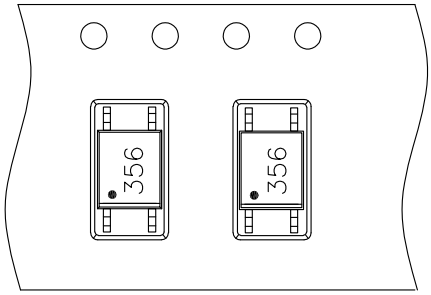
RESTRICTIONS ON PRODUCT USE

- The information in this document is subject to change without notice. Before using this document, please confirm that this is the latest version. Not all devices / types available in every country.
- We are mention about our product quality stablity, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing KINGBRIGHT products, to observe standards of safety, and to a avoid situations in which a malfunction or failure of a KINGBRIGHT product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that KINGBRIGHT products are used within specified operating ranges as set forth in the most recent products specifications.

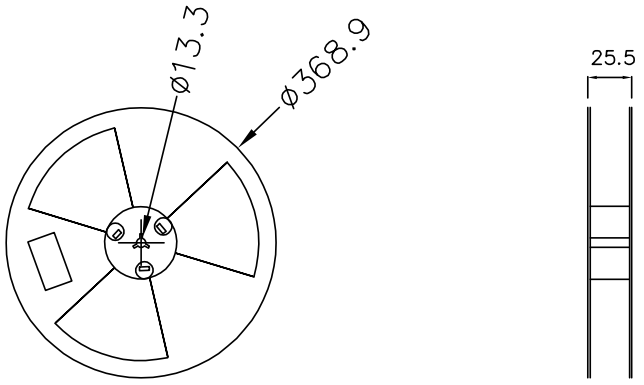
Outline and Dimension(Tape)
(Units : mm)



Tape Direction



Outline and Dimension(Reel)



Packing:1000pcs/reel

PACKING & LABEL SPECIFICATIONS