

KB826

GENERAL PURPOSE HIGH ISOLATION VOLTAGE SINGLE TRANSISTOR TYPE HIGH COLLECTOR VOLTAGE PHOTOCOUPLER SERIES

FEATURES

- 1. High isolation voltage between input and output (Viso=5000 Vrms).
- 2.High Collector-emitter voltage (Vceo=70V).
- 3.Compact dual-in-line package
 - KB826:2-channel type
- 4. Recognized by UL and CUL, file NO.E225308.
- 5.Rohs compliant.

DESCRIPTION

- 1. The KB826 (2-channel) is optically coupled isolators containing
- a GaAS light emitting diode and an NPN silicon phototransistor.
- 2.The lead pitch is 2.54mm.
- 3.Solid insulation thickness between emitting diode and output phototransistor:>=0.6mm.

APPLICATIONS

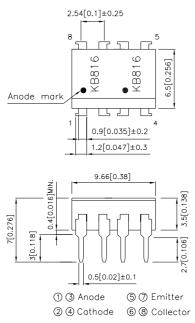
- 1.Computer terminals.
- 2.Registers,copiers,automatic vending machines.
- 3.System appliances, measuring instruments.
- 4. Programmable logic controller.
- 5.Signal transmission between circuits of different potentials and impedances.

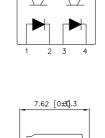
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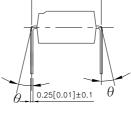
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*PACKAGE DIMENSIONS (UNIT:mm)

 $\label{eq:tolerance} \textsf{TOLERANCE}: \pm 0.5 [\pm 0.02] \ \textsf{UNLESS OTHERWISE NOTED}.$







 $\theta = 0$ to 13°

*Absolute Maximum Ratings (Ta=25°C)

	Parameter	Symbol	Rating	Unit
	Forward current	I _F	50	mA
Input	Reverse voltage	V _R	6	V
	Power dissipation	Р	70	mW
	Collector-emitter voltage	V _{ceo}	70	V
Ordered	Emitter-collector voltage	V _{eco}	6	V
Output	Collector current	Ι _c	50	mA
	Collector power dissipation	Pc	150	mW
Total power dissipation		Ptot	200	mW
¹¹ Isolation voltage		Viso	5000	Vrms
Operating temperature		Topr	-30~+100	°C
Storage temperature		Tstg	-55~+125	°C
^{*2} Soldering temperature		Tsol	260	°C

^{*1} 40 to 60% RH,AC for 1 minute.

*2 For 10 seconds.

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*Electro-optical Characteristics (Ta=25°C)

Parameter		Symbol	Conditions	Min.	Тур.	Max.	Unit	
	Forward voltage		Vf	IF=20mA		1.2	1.4	V
Input	Peak forward voltage		Vfm	Ігм=0.5А			3.0	V
	Reverse current		lr	VR=4V			10	μΑ
Output	Collector dark cur	rent	ICEO	Vce=20V,IF=0mA			10 ⁻⁷	А
	*1Current transfer r	ratio	CTR	IF=5mA,Vce=5V	50		600	%
Transfer	Collector-emitter saturation voltage		Vce(sat)	IF=20mA, Ic=1mA		0.1	0.2	v
charact- eristics	Cut-off frequency		fc	Vce=5V, lc=2mA R∟=100Ω,-3dB		80		KHz
	Response time Fall time	tr	Vce=2V, Ic=2mA		4	18	μs	
		Fall time	tf	RL=100Ω		3	18	μs

*1 Classification table of current transfer ratio is shown below.

 $CTR = \frac{Ic}{IF} X 100\%$

Model NO.	Rank mark	CTR(%)
KB826L	L	50 to 100
KB826A	A	80 to 160
KB826B	В	130 to 260
KB826C	С	200 to 400
KB826D	D	300 to 600
KB826AB	A or B	80 to 260
KB826BC	B or C	130 to 400
KB826CD	C or D	200 to 600
KB826AC	A,B or C	80 to 400
KB826BD	B,C or D	130 to 600
KB826AD	A,B,C or D	80 to 600
KB826	L,A,B,C,D or No mark	50 to 600

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Fig. 1 Current Transfer Ratio vs. Forward Current

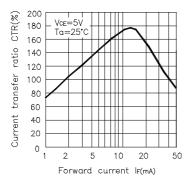
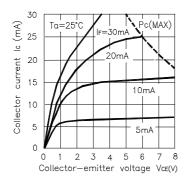
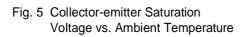


Fig. 3 Collector Current vs. Collector-emitter Voltage





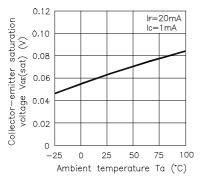
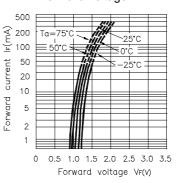
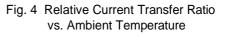


Fig. 2 Forward Current vs. Forward voltage





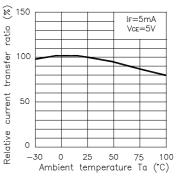
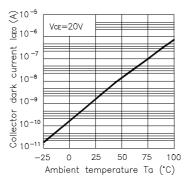


Fig. 6 Collector Dark Current vs. Ambient Temperature



SPEC NO: DSAD1546 APPROVED: J. Lu

REV NO: V.4 CHECKED: Tracy Deng

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Fig. 7 Forward Current vs. Ambient Temperature

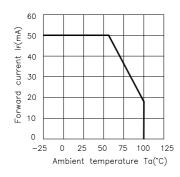


Fig. 9 Response Time vs. Load Resistance

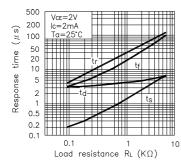


Fig. 10 Frequency Response

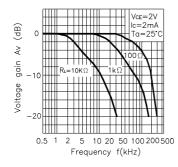
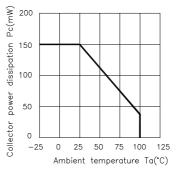
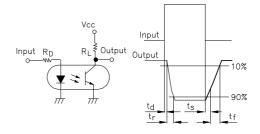


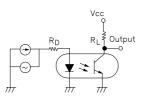
Fig. 8 Collector Power Dissipation vs. Ambient Temperature



Test Circuit for Response Time



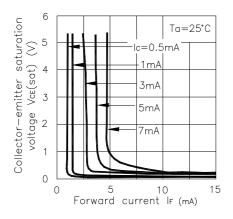
Test Circuit for Frequency Response





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Fig. 11 Collector-emitter Saturation Voltage vs. Forward Current



***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 chorine (The flux with a maximum chlorine content of 0.2 Wt % is recommended.)

(2) Cautions

Fluxes

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

2.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.

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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

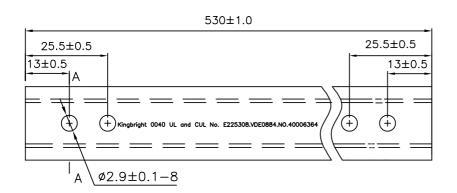
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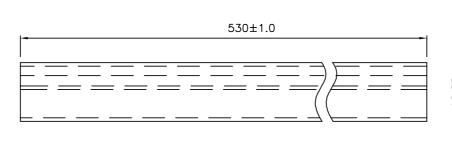
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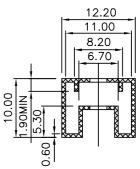
Dimension of Tube

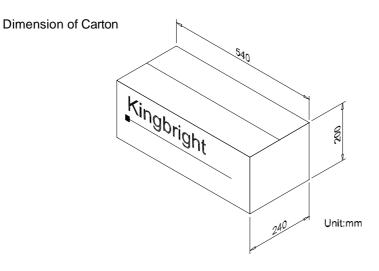
TOLERANCE : ±0.4[±0.012] UNLESS OTHERWISE NOTED. Unit:mm



A-A Side view







Part Number	Package	Package Style
KB826	8-pin DIP	50pcs/each tube

DATE: APR/07/2005 DRAWN: B.H.LI PAGE: 8 OF 8 ERP: 1205000013