

KBT011

PRELIMINARY SPEC

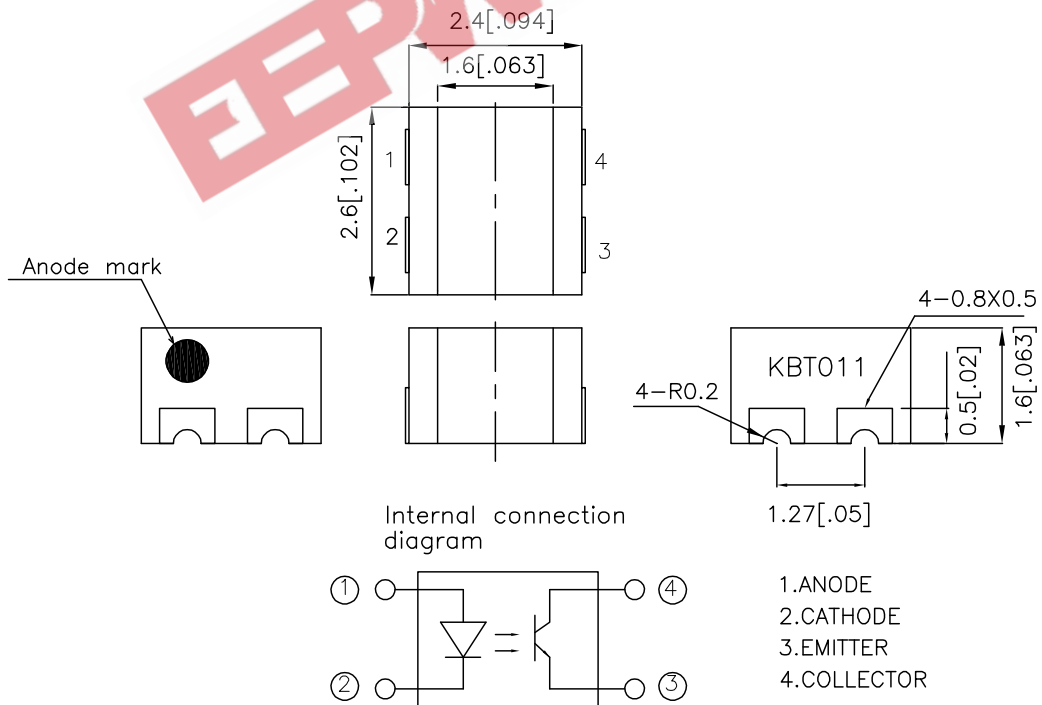
Features

1. Opaque, mini-flat package.
2. Subminiature type.
3. Isolation voltage: 2000 Vrms.
4. High reliability.
5. RoHS compliant.

Applications

1. motor-control circuits.
2. computer terminals.
3. system appliances, measuring instruments.
4. programmable logic controller.
5. signal transmission between circuit of different potentials and impedances.

Package Dimensions



UNIT : MM[INCH]

TOLERANCE : ±0.2[0.008] UNLESS OTHERWISE NOTED.

*Absolute Maximum Ratings(Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward Current	I _F	30	mA
	Reverse Voltage	V _R	6	V
	Power dissipation	P	35	mW
Output	Collector-Emitter Voltage	V _{CEO}	35	V
	Emitter-Collector Voltage	V _{ECO}	6	V
	Collector Current	I _C	30	mA
	Collector Power Dissipation	P _C	150	mW
Total Power Dissipation		P _{tot}	170	mW
*1 Isolation Voltage		Viso	2000	V _{rms}
Operating Temperature		T _{opr}	-30 to +85	°C
Storage Temperature		T _{stg}	-40 to +100	°C
*2 Soldering Temperature		T _{sol}	260	°C

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

*2 For 10 seconds.

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

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	μA	
Output	Collector dark current	I _{CEO}	V _{CE} =20V, I _F =0mA	-	-	10 ⁻⁷	A	
Transfer characteristics	*1 Current transfer ratio		CTR	I _F =5mA, V _{CE} =5V	50	-	300	%
	Collector-emitter saturation voltage		V _{CE(sat)}	I _F =20mA, I _C =1mA	-	-	0.2	V
	Response time	Rise time	t _r	V _{CE} =2V I _C =2mA R _L =100Ω	-	4	18	μs
		Fall time	t _f		-	3	18	μs

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

$$CTR = \frac{I_C}{I_F} \times 100\%$$

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Fig. 1 Forward Current vs. Forward Voltage

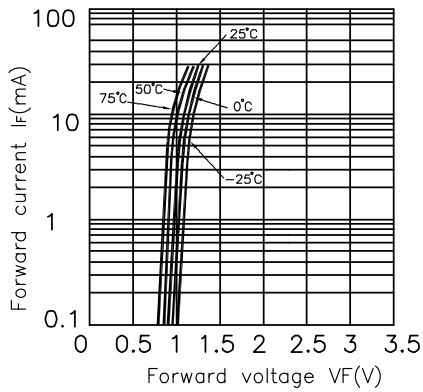


Fig. 2 Collector Transfer Ratio vs. Forward Current

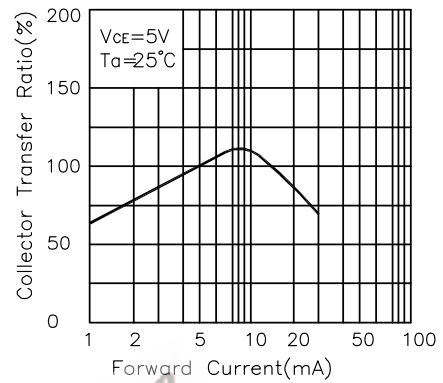


Fig. 3 Collector-emitter voltage vs. Collector Current

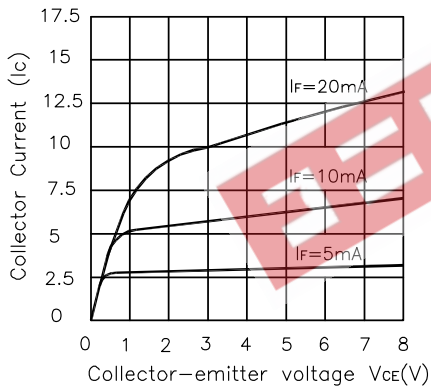


Fig. 4 Relative Current Transfer Ratio vs. Ambient Temperature

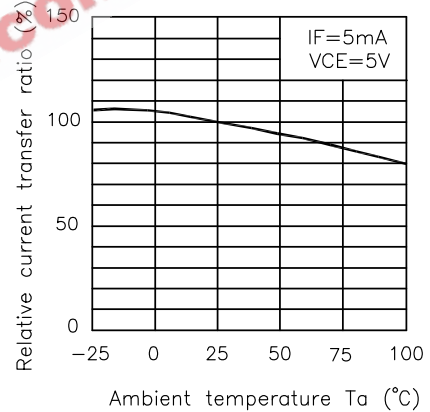
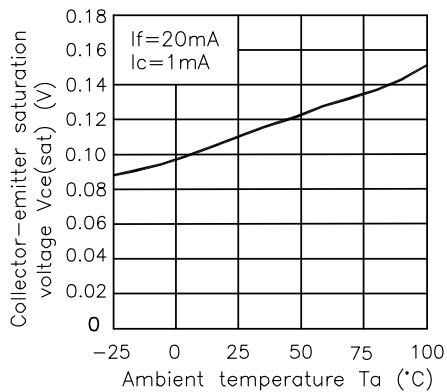


Fig.5 Collector-emitter Saturation Voltage VS. Ambient Temperature



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Fig. 6 Forward Current vs. Ambient Temperature

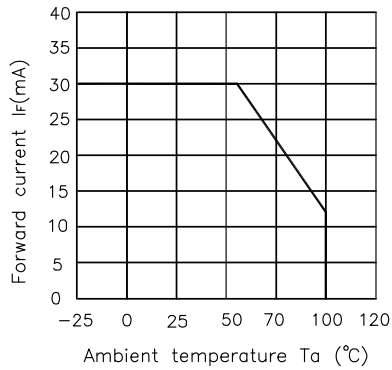


Fig. 7 Collector Power Dissipation vs. Ambient Temperature

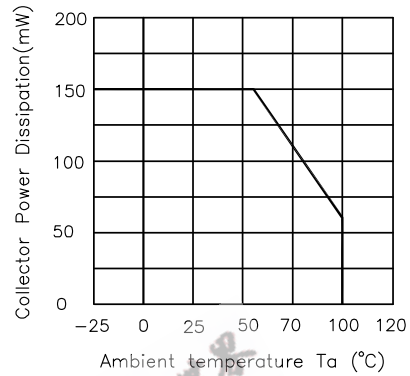
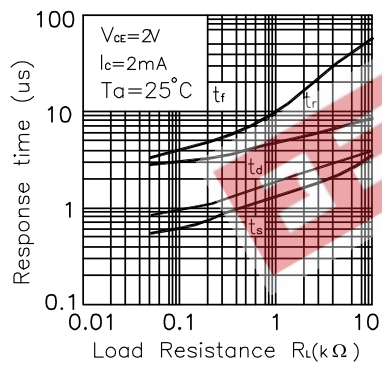


Fig.8 Response Time vs. Load Resistance



Test Circuit for Response Time

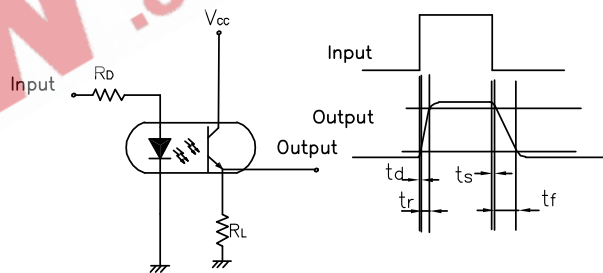


Fig.9 Collector-emitter Saturation Voltage VS. Forward Current

