

AB356N2T

Photocoupler

FEATURES

- High collector-emitter Voltage
- Opaque type, mini-flat package
- Subminiature type (The volume is smaller than that of our conventional DIP type by as far as 30%)
- Isolation voltage between input and output Viso: 3750Vrms
- Employs double transfer mold technology
- Package: 1000 pcs / reel
- Moisture sensitivity level: 4
- RoHS compliant

APPLICATIONS

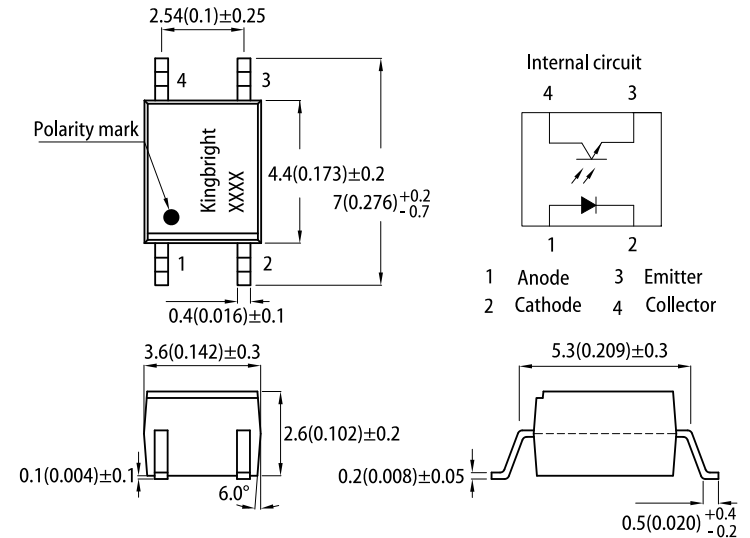
- Hybrid substrates that require high density mounting
- Programmable controllers

NOTES ON HANDLING

Cautions regarding electrical noise

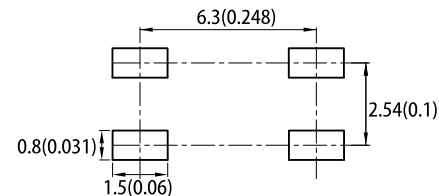
Please ensure the power supply is stable at all times. Even if the designed operating voltage is within specification limits, sudden voltage spikes at startup may damage the component.

PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.15)



- Notes:
1. All dimensions are in millimeters (inches).
 2. Tolerance is $\pm 0.5(0.02)$ unless otherwise noted.
 3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
 4. The device has a single mounting surface. The device must be mounted according to the specifications.

ELECTRICAL / OPTICAL CHARACTERISTICS at $T_A=25^\circ\text{C}$

Parameter		Symbol	Value			Units	Test Conditions
			Min.	Typ.	Max.		
Input	Forward voltage	V_F	-	1.2	1.4	V	$I_F=20\text{mA}$
	Peak forward voltage	V_{FM}	-	-	3.0	V	$I_{FM}=0.5\text{A}$
	Reverse current	I_R	-	-	10	μA	$V_R=4\text{V}$
Output	Collector dark current	I_{CEO}	-	-	10^{-7}	A	$I_F=0\text{mA}, V_{CE}=20\text{V}$
	Collector-emitter breakdown voltage	BV_{CEO}	80	-	-	V	$I_F=0\text{mA}, I_C=0.1\text{mA}$
	Emitter-collector breakdown voltage	BV_{ECO}	6	-	-	V	$I_F=0\text{mA}, I_E=10\mu\text{A}$
Transfer characteristics	Current transfer ratio	CTR	130	-	260	%	$I_F=5\text{mA}, V_{CE}=5\text{V}$
	Collector-emitter saturation voltage	$V_{CE(sat)}$	-	0.1	0.2	V	$I_F=20\text{mA}, I_C=1\text{mA}$
	Response time	Rise time	t_r	6	-	μs	$V_{CE}=2\text{V}, I_C=2\text{mA}$ $R_L=100\Omega$
		Fall time	t_f	8	-	μs	

Note:

1. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

ABSOLUTE MAXIMUM RATINGS at $T_A=25^\circ\text{C}$

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Reverse voltage	V_R	6	V
	Power dissipation	P_D	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
Isolation voltage ^[1]		V_{iso}	3750	V _{rms}
Operating temperature		T_{opr}	-30~+100	$^\circ\text{C}$
Storage temperature		T_{stg}	-40~+125	$^\circ\text{C}$

Notes:
 1. 40 to 60% RH, AC for 1 minute.
 2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

TECHNICAL DATA

Fig. 1 Current Transfer Ratio vs. Forward Current

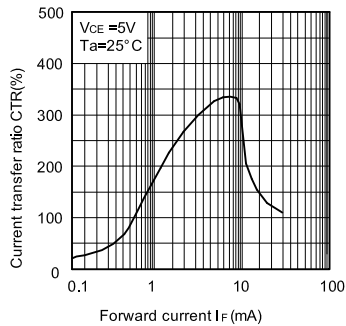


Fig. 2 Forward Current vs. Forward Voltage

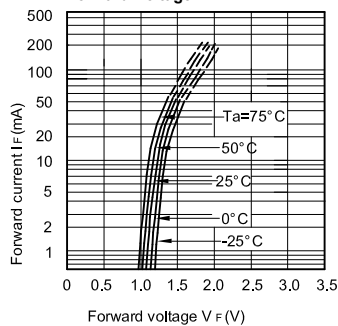


Fig. 3 Collector Current vs. Collector-Emitter Voltage

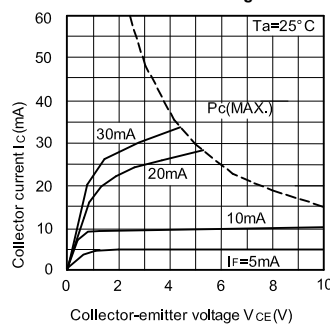


Fig. 4 Relative Current Transfer Ratio vs. Ambient Temperature

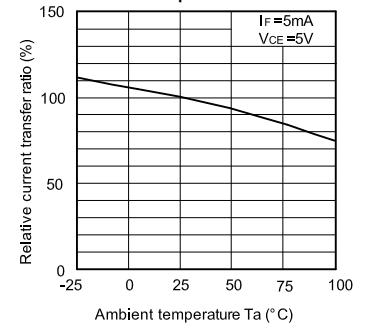


Fig. 5 Collector-Emitter Saturation Voltage vs. Ambient Temperature

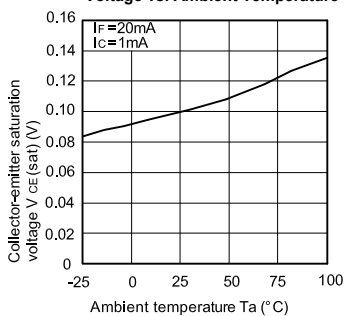


Fig. 6 Response Time vs. Load Resistance

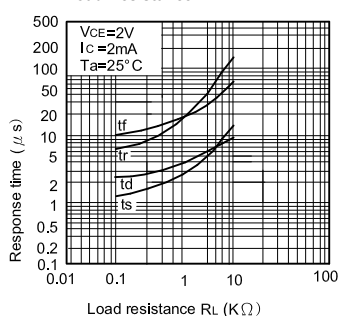


Fig. 7 Collector-Emitter Saturation Voltage vs. Forward Current

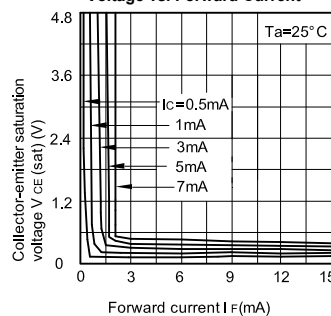
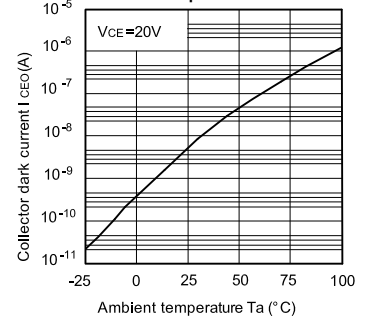


Fig. 8 Collector Dark Current vs. Ambient Temperature



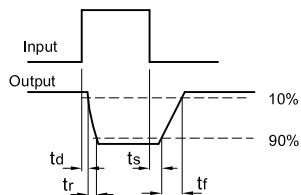


Figure 1 is a graph showing the temperature profile of a polymer solution during the synthesis of polyacetaldehyde. The Y-axis represents Temperature (°C) from 0 to 300, and the X-axis represents Time (sec) from 0 to 300. The profile starts at 25°C, rises to 150°C at 40s, then to 200°C at 160s (labeled "pre-heating 150~200°C 60~120s"). Above 200°C, the rate is 3°C/s max. It reaches a plateau above 255°C (30s max) and then a peak at 260°C max (10s max). The cooling rate is 6°C/s max. A shaded region indicates the polymerization period "above 217°C 60~150s".

Diagram illustrating the packaging flow for Kingbright LEDs:

- Individual components (labeled "Label").
- Reel packaging (labeled "User Direction of Feed", "Label", and "1,000pcs / Reel").
- Bag packaging (labeled "Label" and "1 Reel / Bag").
- Box packaging (labeled "2K / Box").
- Final retail box (labeled "6K / Box") featuring the Kingbright logo and "Outside Label".

