

## AB354NT Photocoupler

### FEATURES

- AC inputs
- High current transfer ratio
- 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: 2
- RoHS compliant

### APPLICATIONS

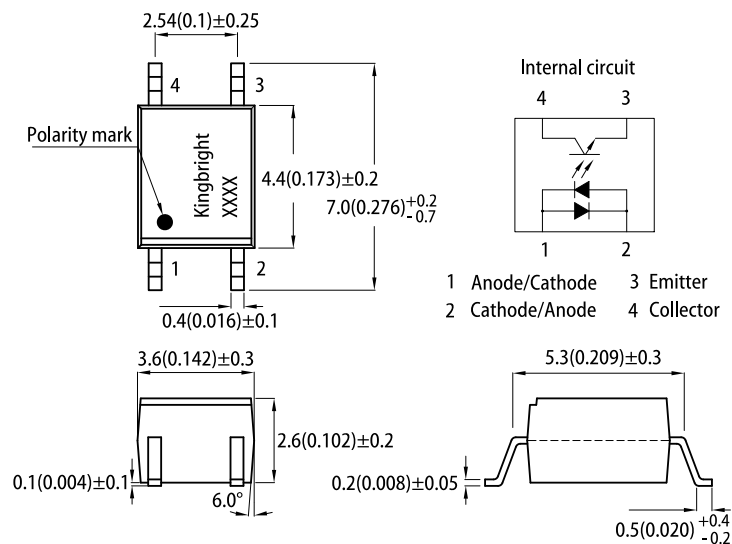
- Hybrid substrates that require high density mounting
- Programmable controllers

### 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



- 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			Unit	Test Conditions	
		Min.	Typ.	Max.			
Input	Forward Voltage	$V_F$	-	1.2	1.4	V	$I_F=\pm 20\text{mA}$
	Peak Forward Voltage	$V_{FM}$	-	-	3.0	V	$I_{FM}=0.5\text{A}$
Output	Collector Dark Current	$I_{CEO}$	-	-	$10^{-7}$	A	$I_F=0\text{mA}, V_{CE}=20\text{V}$
	Collector-Emitter Breakdown Voltage	$BV_{CEO}$	35	-	-	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	20	-	300	%	$I_F=\pm 1\text{mA}, V_{CE}=5\text{V}$
	Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	0.1	0.2	V	$I_F=\pm 20\text{mA}, I_C=1\text{mA}$
	Response Time	Rise Time	$t_r$	-	4	18	$\mu\text{s}$
Fall Time		$t_f$	-	3	18	$\mu\text{s}$	

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

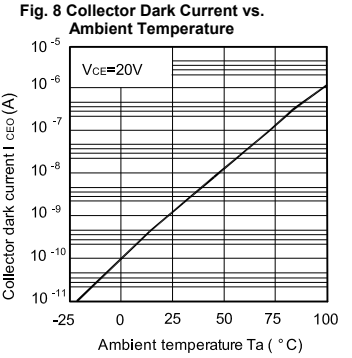
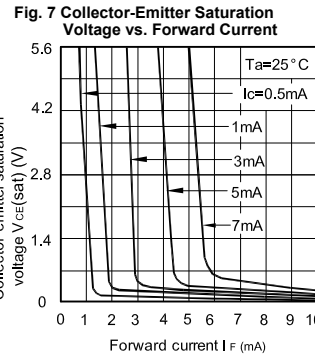
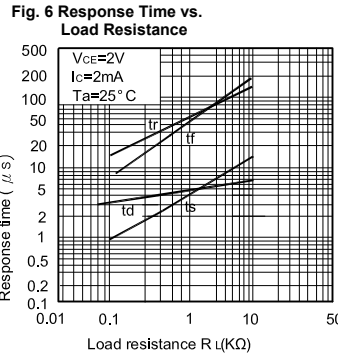
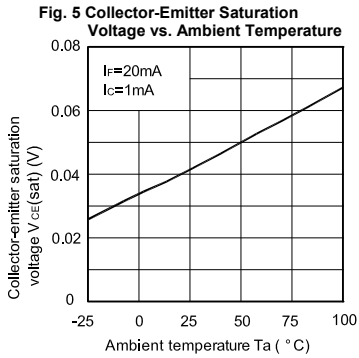
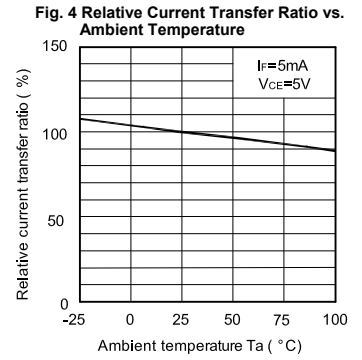
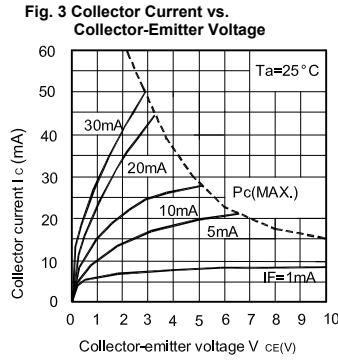
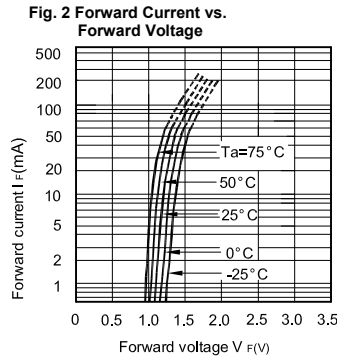
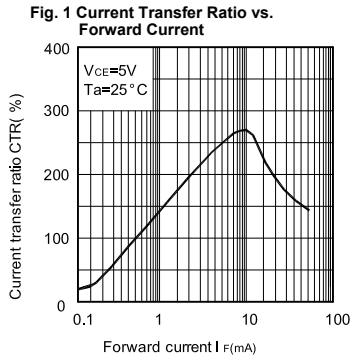
### ABSOLUTE MAXIMUM RATINGS at $T_A=25^{\circ}\text{C}$

Parameter		Symbol	Rating	Unit
Input	Forward Current	$I_F$	$\pm 50$	mA
	Power Dissipation	$P_D$	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
Isolation Voltage <sup>[1]</sup>		$V_{iso}$	3750	Vrms
Operating Temperature		$T_{opr}$	-30~+100	$^{\circ}\text{C}$
Storage Temperature		$T_{stg}$	-40~+125	$^{\circ}\text{C}$

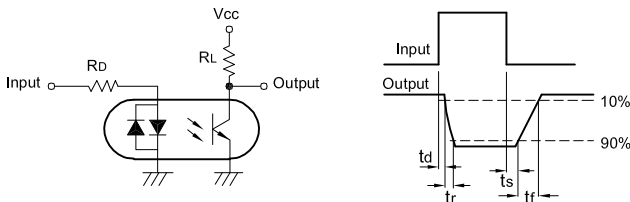
Notes:  
 1. 40 to 60% RH, AC for 1 minute.  
 2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

Rank Mark	CTR(%)
L	20 ~ 50
A	50 ~ 150
B	150 ~ 300

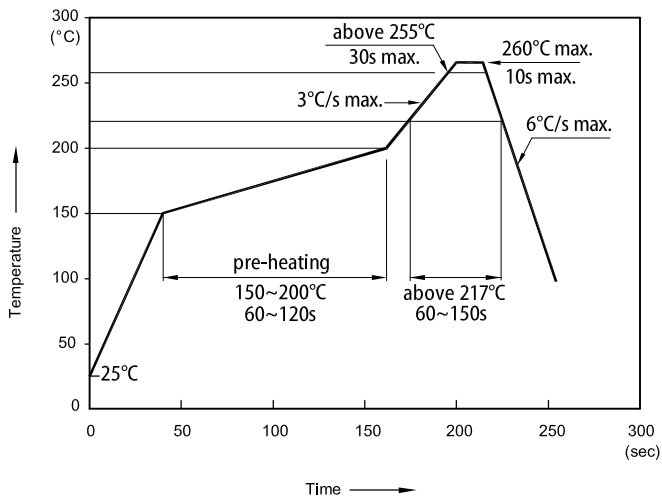
### TECHNICAL DATA



**Test Circuit for Response Time**

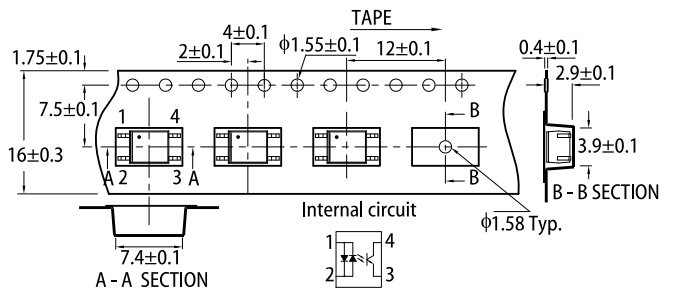


**REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS**

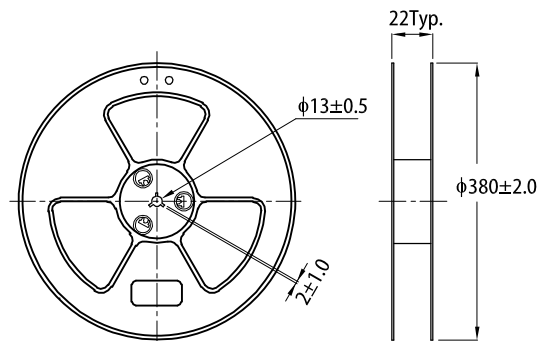


- Notes:
1. Don't cause stress to the LEDs while it is exposed to high temperature.
  2. The maximum number of reflow soldering passes is 2 times.
  3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

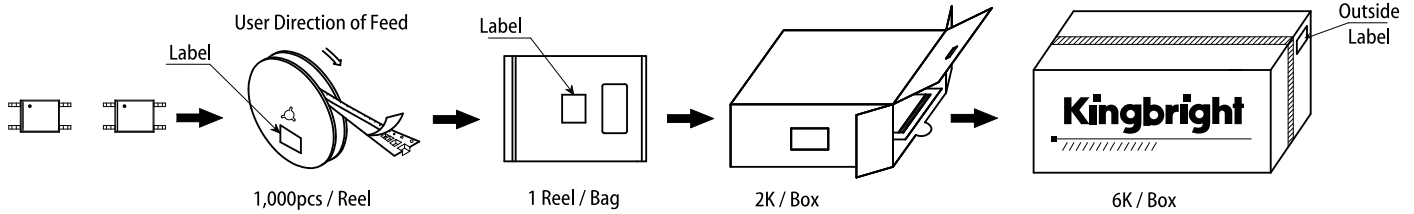
**TAPE SPECIFICATIONS (units : mm)**



**REEL DIMENSION (units : mm)**



## PACKING & LABEL SPECIFICATIONS



### RESTRICTIONS ON PRODUCT USE

1. The information in this document represents typical usage and is provided for technical reference.
2. The information in this document is subject to change without notice. Please refer to the latest version of this document for the most updated information.
3. Please ensure this product is used in accordance with the electrical and environmental specifications and tolerances listed in this document. If the usage exceeds the specification range, Kingbright will not be responsible for any subsequent issues.
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