



BRIGHTTEK

BRIGHTTEK (EUROPE) LIMITED

Brighten up The World With LED!



ISO/TS 16949:2009

BS EN ISO 14001:2004

QC 800000 IECQ HSP90

PRODUCT DATASHEET



- ▶ DC Input Photo Coupler
- ▶ DIP6 Gullwing 400mil
- ▶ Darlington Transistor

H11B255(M)-GV



Release Date: 06 July 2025 Version: A00



APPLICATIONS:

- Low power logic circuits
- Telecommunications equipment
- Portable electronics
- Interfacing coupling systems of different potentials and impedances

H11B255(M) Series

DESCRIPTION:

The H11B255(M) series combines an AlGaAs infrared emitting diode as the emitter which is optically coupled to a silicon planar Darlington phototransistor detector in a plastic DIP6 package with Gullwing lead forming option.



FEATURES:

- High isolation 5000Vrms
- DC input with transistor output
- Operating temperature range -55°C to +110°C
- REACH & RoHS compliance
- MSL class 1
- Regulatory Approvals:
 - UL - UL1577
 - VDE - EN60747-5-5 (VDE0884-5)
 - CQC - GB4943.1, GB8898
 - cUL - CSA Component Acceptance Service Notice 5A
- Packing: 65pcs/tube



Partner with:  LIGHTNING

NAMING & ORDERING INFORMATION:

Naming Information:

H11B255 (M) - G V	
H11B255	Part Number
M	Lead Form Option: DIP6 Gullwing
G	Green Option
V	VDE Option

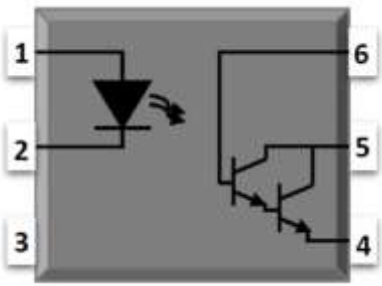
Ordering Information:

H11B255(M)-GV

Version No.	Original Release Date
Rev: A00	17/08/2024

SCHEMATIC DIAGRAM & MARKING:

Schematic Diagram:

	PIN Definition	
	1	Anode
	2	Cathode
	3	NC
	4	Emitter
	5	Collector
	6	Base

Marking Information:

	Marking Definition	
	TD	Manufacturer Code
	H11BX	Part Number
	V	VDE Applicable
	Y	Fiscal Year
	A	Manufacturing Code
	WW	Work Week

Labelling Information:

 BRIGHTTEK BRIGHTTEK (EUROPE) LIMITED	
Part No.: XXXXXXXXXXXX	Bin Code: X
	
Lot No.: XXXXXXXX	
Date Code: XXXX	
QTY: XXX PCS	
	
MSL: 1	
Made in Quanzhou Fujian	
    	

This product is manufactured by



for Brighttek (Europe) Limited

ABSOLUTE CHARACTERISTICS:

Absolute Maximum Ratings:

Parameter	Symbol	Ratings	Unit
INPUT			
Forward Current	I_F	60	mA
Peak Forward Current	I_{FM}	1 * ¹	A
Reverse Voltage	V_R	6	V
Power Dissipation ($T_a=25^{\circ}\text{C}$)	P_D	120	mW
OUTPUT			
Collector-Emitter Voltage	V_{CEO}	55	V
Collector-Base Breakdown Voltage	V_{CBO}	55	V
Emitter-Collector Voltage	V_{ECO}	7	V
Emitter-Base Breakdown Voltage	V_{EBO}	7	V
Collector Current	I_C	150	mA
Power Dissipation ($T_a=25^{\circ}\text{C}$)	P_C	150	mW
COMMON			
Total Power Dissipation	P_{tot}	200	mW
Isolation Voltage	V_{iso}	5000 * ²	V _{rms}
Operating Temperature	T_{opr}	-55~+110	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55~+110	$^{\circ}\text{C}$
Soldering Temperature	T_{sol}	260 * ³	$^{\circ}\text{C}$

*1. $t=10\mu\text{s}$

*2. AC for 1 minute, R.H.=40~60%

*3. For 10 seconds

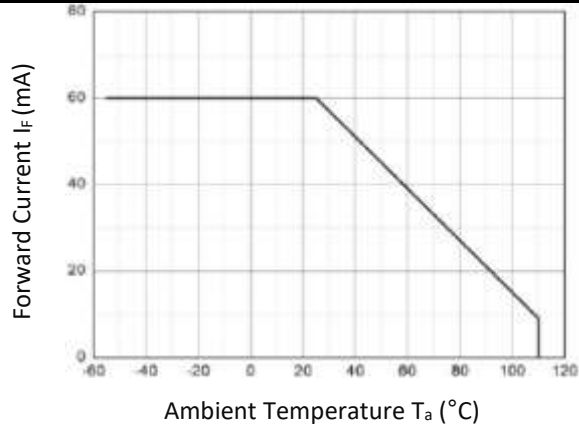
ELECTRICAL CHARACTERISTICS:

Electrical Optical Characteristics at $T_a=25^{\circ}\text{C}$:

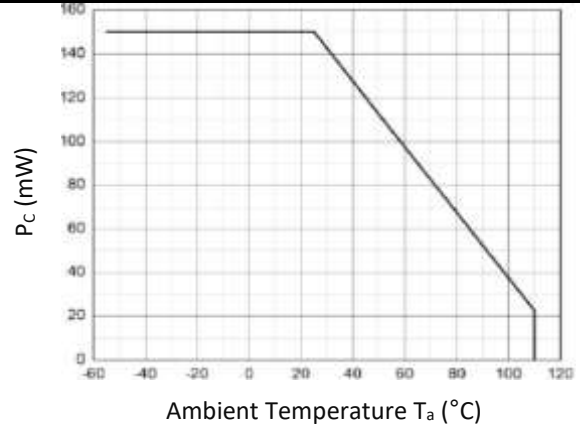
Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
INPUT						
Forward Voltage	V _F	---	1.24	1.4	V	I _F =10mA
Reverse Current	I _R	---	---	10	μA	V _R =6V
Input Capacitance	C _{IN}	---	50	---	pF	V=0, f=1kHz
OUTPUT						
Collector Dark Current	I _{CEO}	---	---	100	nA	V _{CE} =10V
Collector-Emitter Breakdown Voltage	BV _{CEO}	55	---	---	V	I _C =0.1mA
Collector-Base Breakdown Voltage	BV _{CBO}	55	---	---	V	I _C =0.1mA
Emitter-Collector Breakdown Voltage	BV _{ECO}	7	---	---	V	I _E =0.1mA
TRANSFER CHARACTERISTICS						
Current Transfer Ratio	CTR	100	---	---	%	I _F =10mA, V _{CE} =5V
Collector-Emitter Saturation Voltage	V _{CE(sat)}	---	---	1.0	V	I _F =50mA, I _C =50mA
Isolation Resistance	R _{IO}	10 ¹¹	---	---	Ω	V _{IO} =500Vdc.
Floating Capacitance	C _{IO}	---	0.8	---	pF	V=0, f=1MHz
Turn On Time	t _{on}	---	25	---	μs	I _C =10mA, V _{CC} =2V R _L =100Ω
Turn Off Time	t _{off}	---	18	---	μs	I _C =10mA, V _{CC} =2V R _L =100Ω

CHARACTERISTIC CURVES:

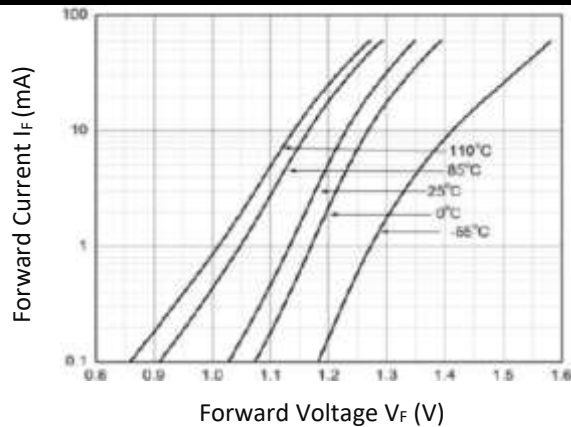
Forward Current v.s. Ambient Temperature



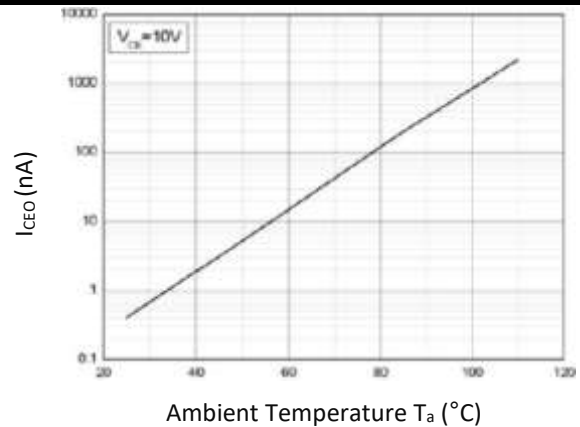
Collector Power Dissipation v.s. Ambient Temper.



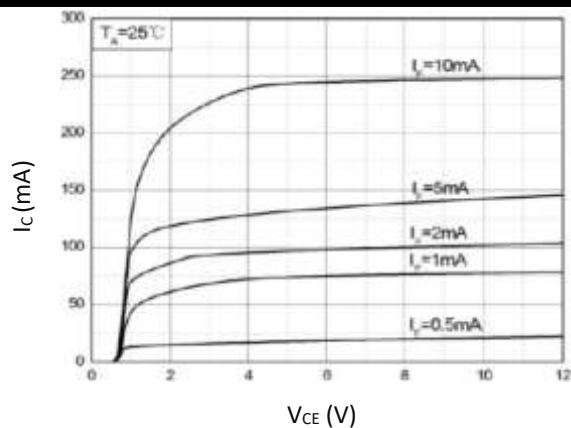
Forward Current v.s. Forward Voltage



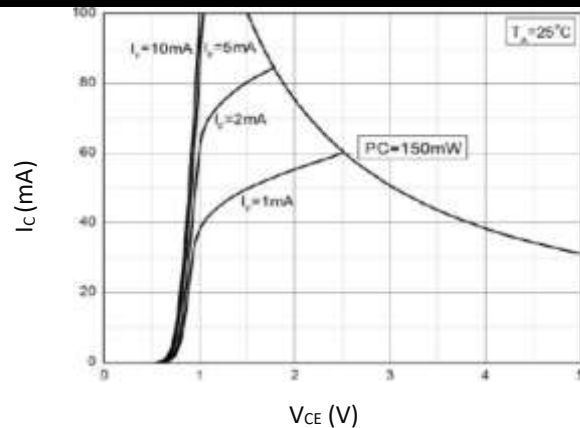
Collector Dark Current v.s. Ambient Temperature



Collector Current v.s. Collector-Emitter Voltage

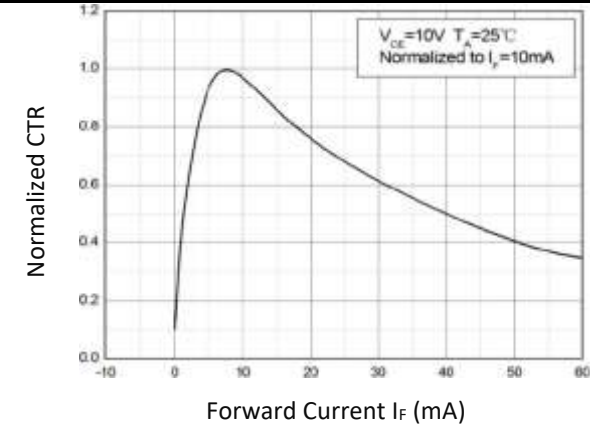


Collector Current v.s. Collector-Emitter Voltage

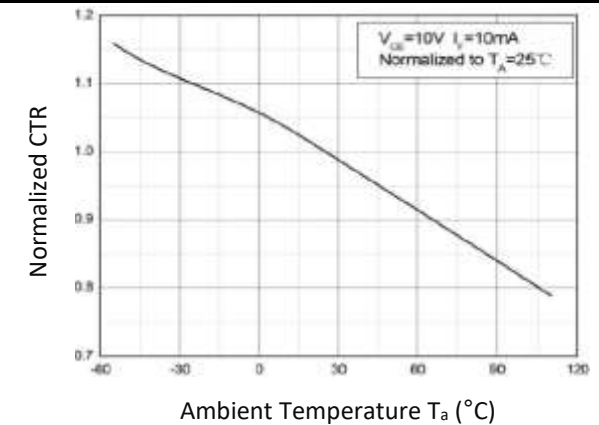


CHARACTERISTIC CURVES:

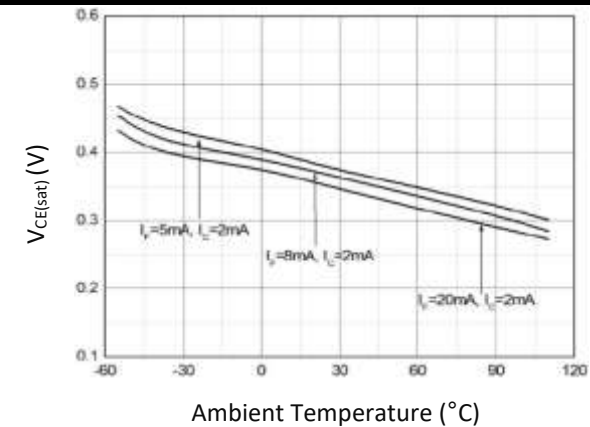
Normalized Current Transfer Ratio v.s. Forward Current



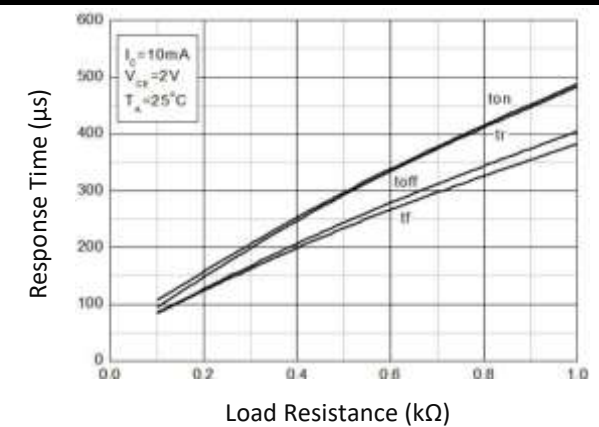
Normalized Current Transfer Ratio v.s. Ambient Temperature



Collector-Emitter Saturation Voltage v.s. Ambient Temperature

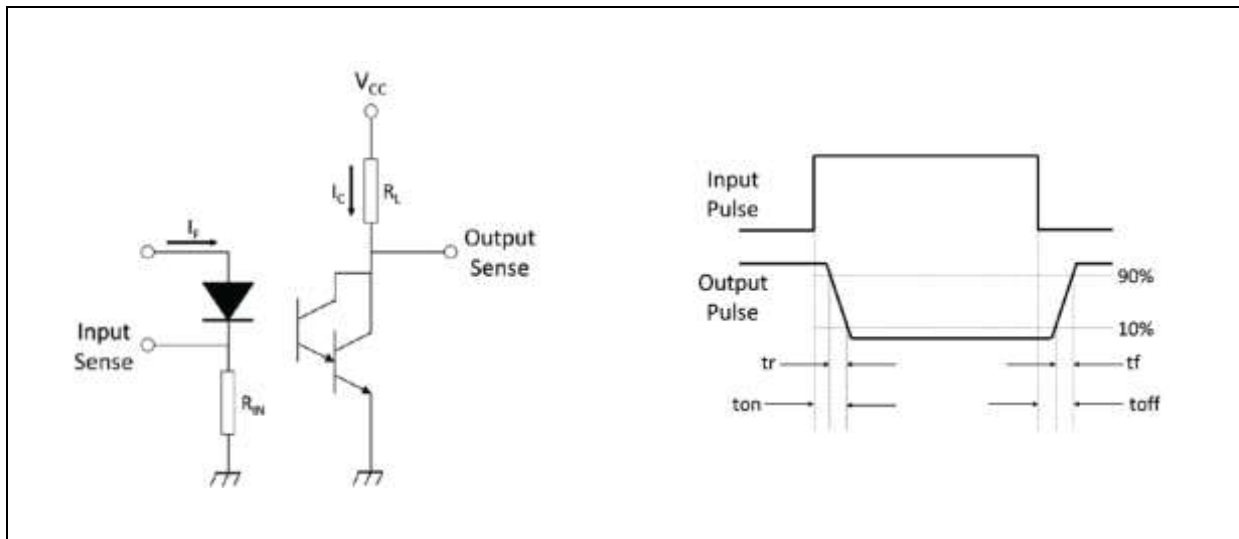


Switching Time v.s. Load Resistance

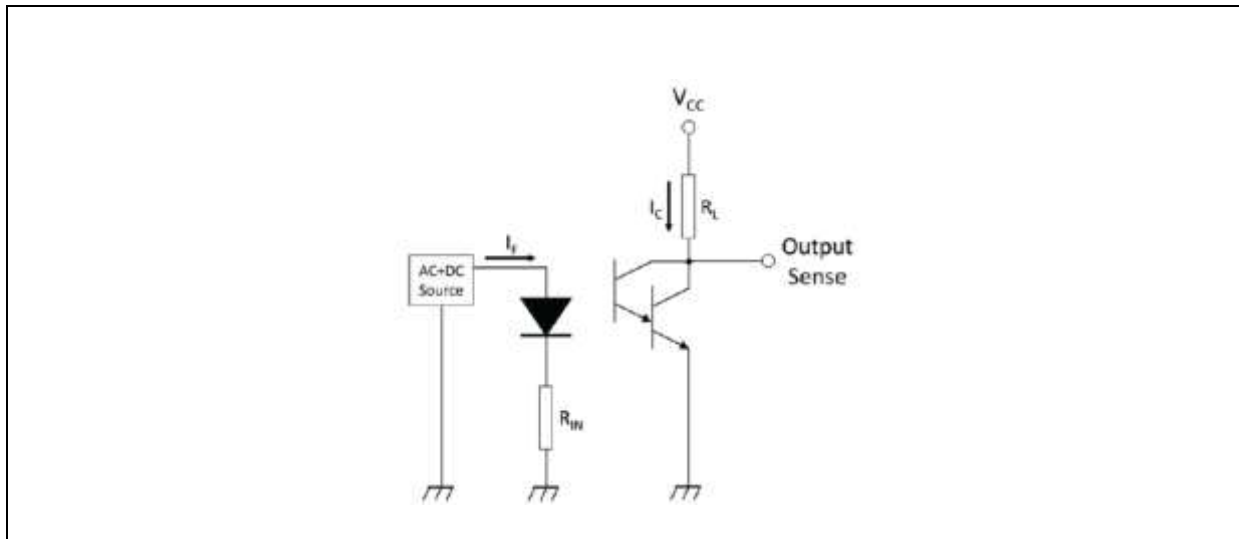


TEST CIRCUIT:

Test Circuit and Waveforms of Response Time:

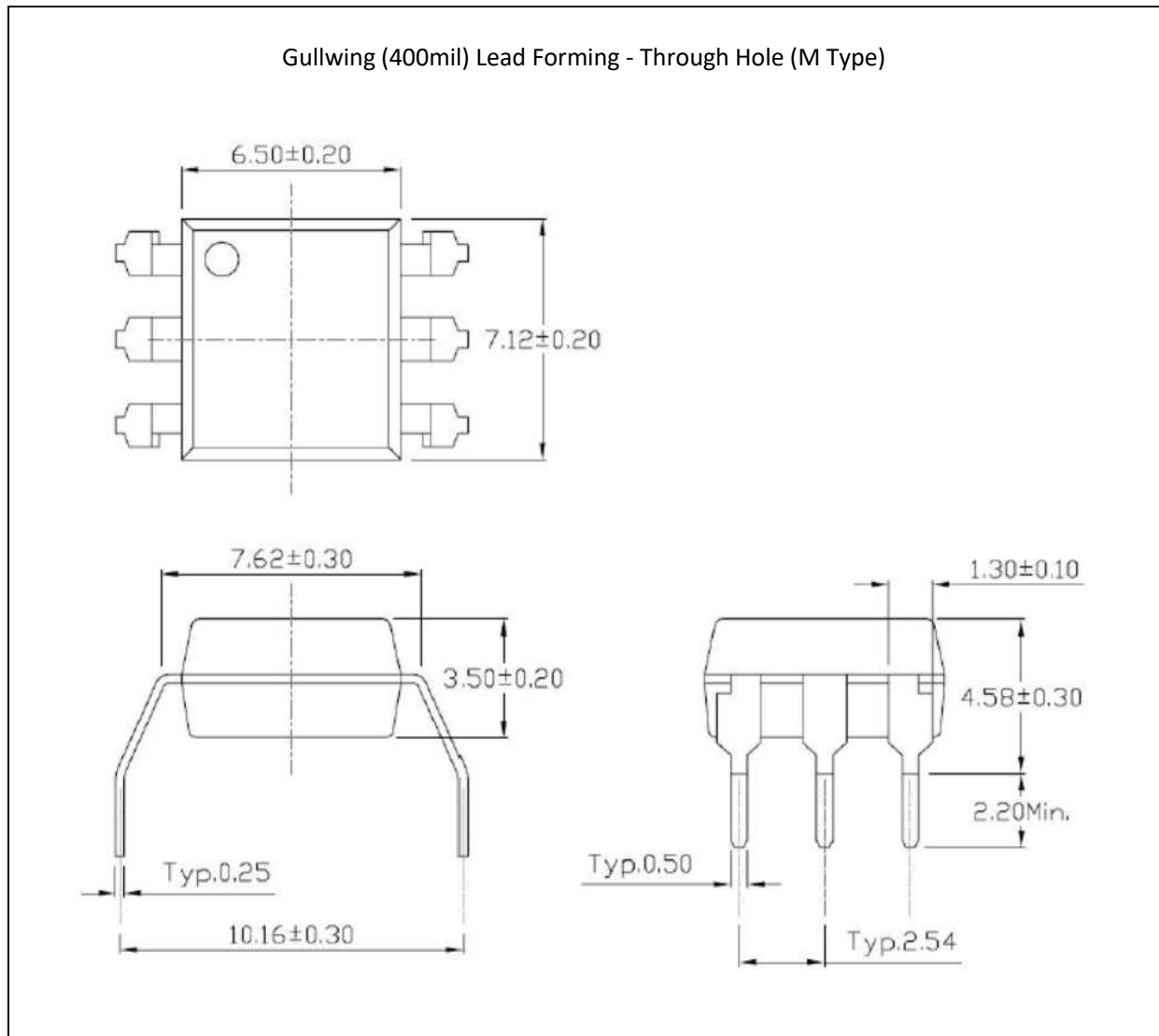


Test Circuit of Frequency Response:



OUTLINE DIMENSION:

Package Dimension:

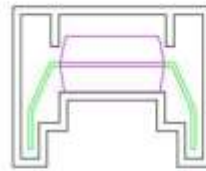
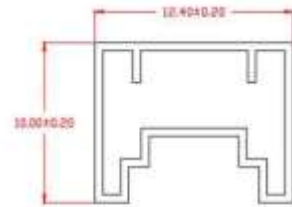


1. All dimensions are in millimetre (mm).

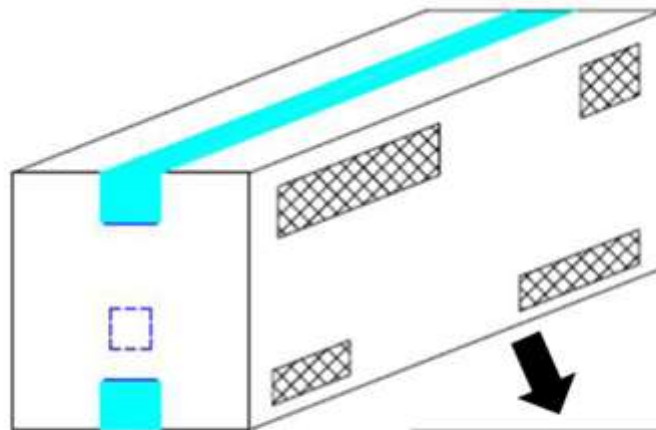
PACKING SPECIFICATION:

Tube Dimension:

65pcs/tube, 32 tube/inner box, 10 inner box (20.8Kpcs)/carton



● L x W x H = 52.5cm x 10.7cm x 4.7cm



● L x W x H = 53.5cm x 23.5cm x 25.5cm



RECOMMENDED SOLDERING PROFILE:

Wave Soldering (JESD22-A111 Compliant):



Hand Soldering:

Soldering Temperature	380±5°C
Soldering Time	3 sec max.

Note:

- One time soldering is recommended for all soldering methods.
- Do not solder more than three times for IR reflow soldering.