JOCT247X-S16 Series

Rev.A.1.0

DESCRIPTION:

The products are transistor opto-couplers in a SSOP16 package, that infrared LED chip and photo-transistor chip are assembled on lead frame, in order to change the electricity-light-electricity. The products are widely used in DC-DC converter, communications equipment, programmable controller and signal transmission.

MAIN FEATURES

High isolation 3750 VRMS
Operating temperature range -55°C to 110°C
RoHS & REACH Compliance
HBM: H3A; MM: M4; CDM:C3
CQC approved
VDE approved
UL approved

ABSOLUTE MAXIMUM RATINGS (Temperature=25°C)

Parameter		Symbol	Value	Unit
Input	Forward Current	I_F	50	mA
	Peak Forward Current	I_{FP}	1	A
	Reverse Voltage	V_R	6	V
	Power Dissipation	P_D	75	mW
Output	Collector-emitter Voltage	V_{CEO}	80	V
	Emitter-collector Voltage	V_{ECO}	7	V
	Collector Current	I_C	50	mA
	Power Dissipation	P_C	150	mW
Total Power Dissipation		P_{tot}	225	mW
Isolation Voltage		V_{iso}	3750	Vrms
Operating Temperature		T_{opr}	-55~+110	
Junction Temperature		T_j	125	
Storage Temperature		T_{stg}	-55~+125	
Soldering Temperature		T_{sol}	260	

ELECTRICAL CHARACTERISTICS (Temperature=25°C)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V_F	I_F=10mA	-	1.2	1.5	V
	Reverse Current	I_R	V_R=6V	-	-	1	μA
	Terminal Capacitance	C_t	V=0, f=1MHz	-	30	250	pF
Output	Collector-Emitter dark current	I_{CEO}	V_{CE}=20V, I_F=0	-	-	50	nA
	Collector-Emitter breakdown voltage	BV_{CEO}	I_C=0.1mA I_F=0	80	-	-	V
	Emitter-Collector breakdown voltage	BV_{ECO}	I_E=0.1mA I_F=0	7	-	-	V
Transfer Characteristics	Current transfer ratio	CTR '	I_F=5mA V_{CE}=5V	80	-	600	%
	Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_F=10mA I_C= 1mA	-	0.06	0.2	V
	Isolation resistance	R_{IO}	DC500V 40~60%R.H.	5×10^{10}	10^{11}	-	Ω
	Floating Capacitance	C_{IO}	V=0, f=1MHz	-			

JOCT247X

Characteristics Curves

FIG.1: Max. Allowable LED Forward Current vs. Ambient Temperature

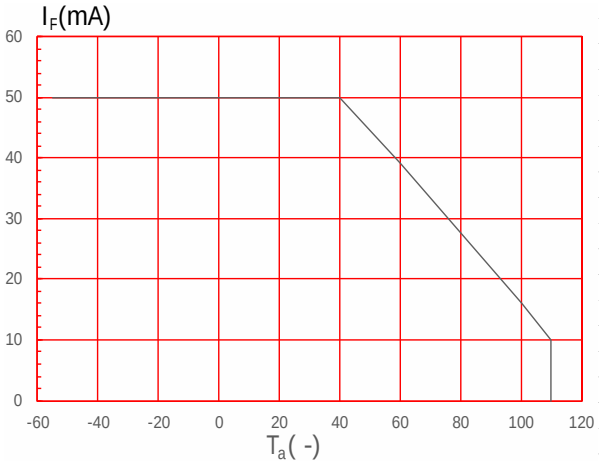


FIG.2: Collector Power Dissiption vs. Ambient Temperature

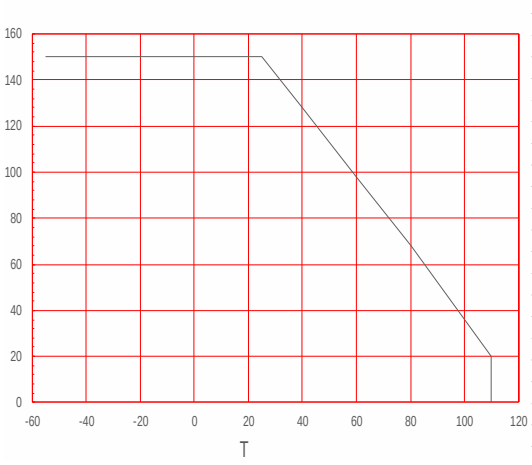


FIG.7: Normalized Current Transfer Ratio vs. Ambient Temperature

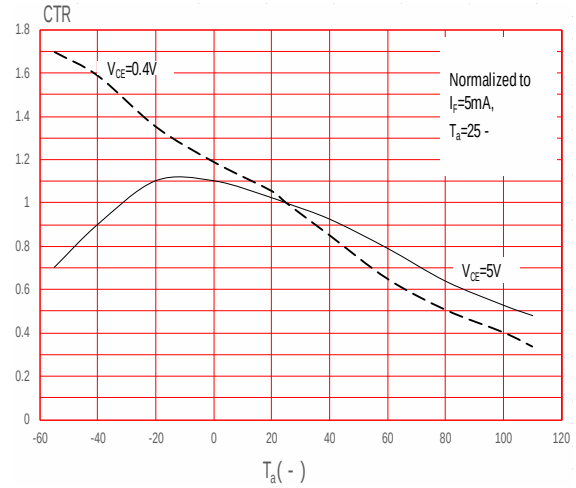


FIG.8: Normalized Collector-emitter Saturation Voltage vs. Ambient Temperature

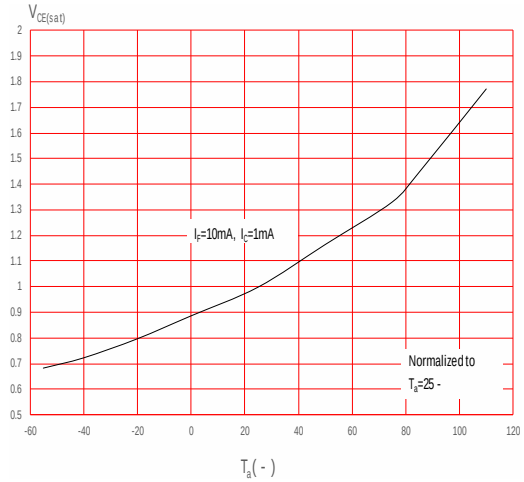


FIG.9: Response Time vs. Load Resistance

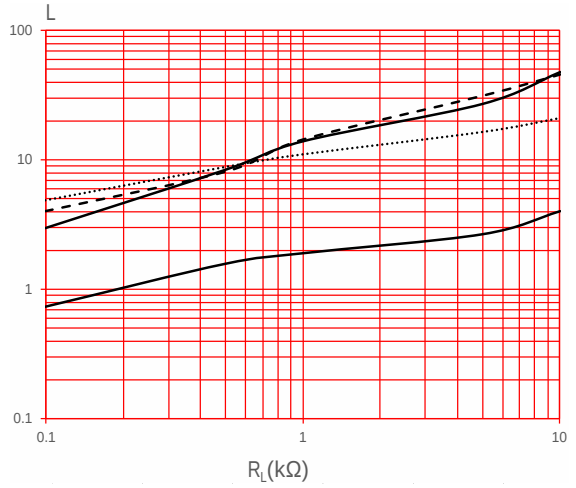


FIG.10: Frequency Response

Test Circuits

FIG.11: Test Circuits of Response Time

FIG.12: Curves of Response Time

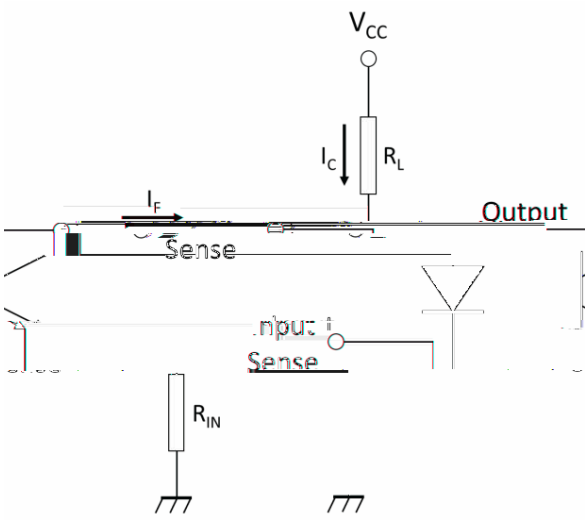
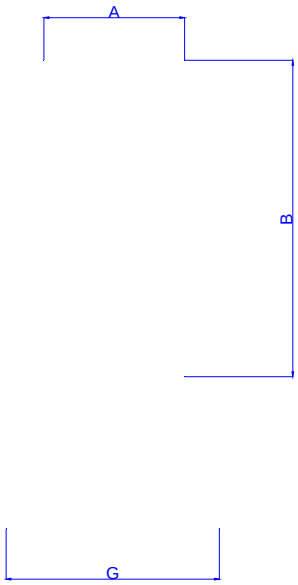


FIG.13: Test Circuits of Frequency Response

Package Dimension (Unit: mm)

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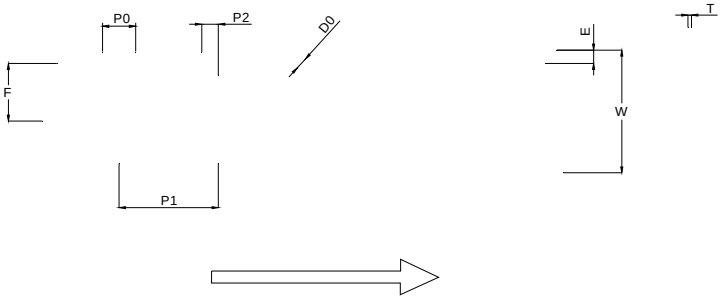
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.80			0.189
B	10.10		10.50			0.413
C						
D	1.95		2.25			0.089
E	5.00		5.60			0.220
F	0.34			0.013		
G	6.70		7.30			0.287
H	0.10		0.30			0.012
I	2.05			0.081		
J	0.30			0.012		
K	1.02					0.060

CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

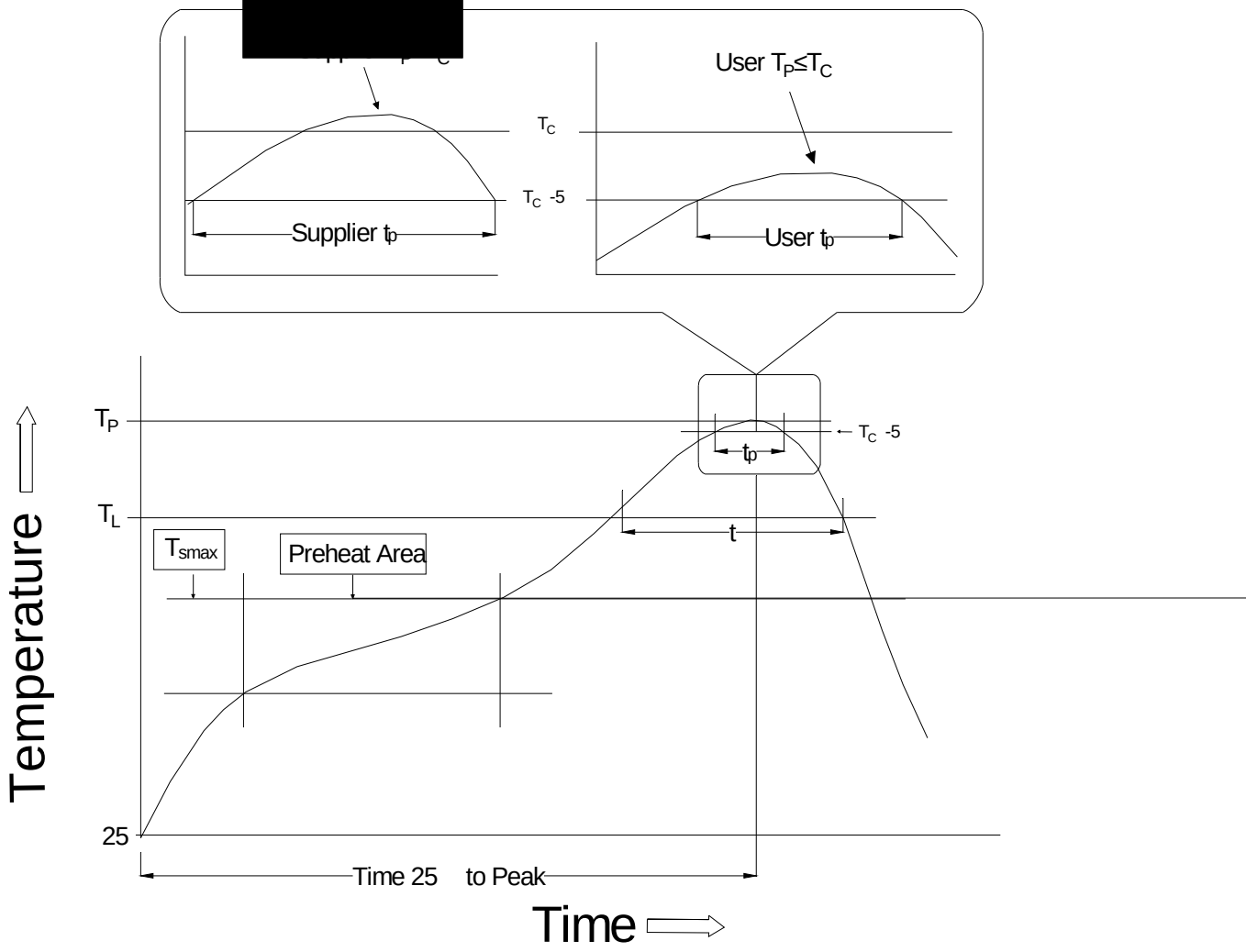
Option S

Dimensions

Millimeters Inches



REFLOW INFORMATIO



Note:

1. Reflow soldering is recommended at the temperatures and times shown, no more than three times.

2. Avoid direct contact between the epoxy body and any tools or surfaces exceeding its maximum storage temperature.

3. Application of pressure on the epoxy body is prohibited at elevated temperatures. In specific scenarios, any applied force must not exceed 2.5N.

4. Ensure the component has cooled to ambient temperature before proceeding with any subsequent manufacturing steps.

5. The component has a shelf life of one year when stored undereC N= T e: £ я l c ɹ f M ỹ i e