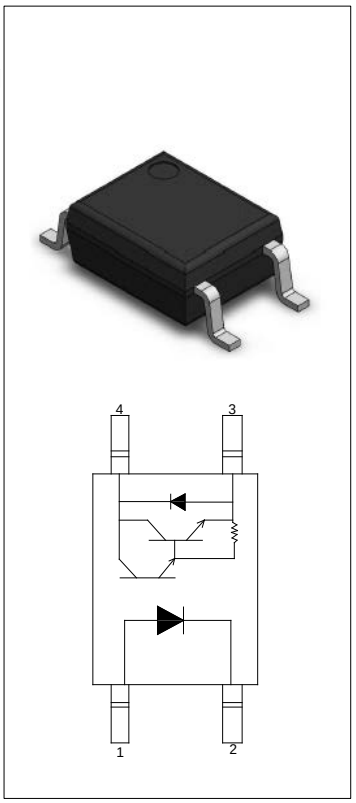
JOC355X

Rev.A.1.0

The products are Darlington transistor opto-couplers in a plastic SOP4 package. The device combines an AlGaAs infrared emitting diode as the emitter which is optically coupled to a silicon planar phototransistor detector. With the robust coplanar double mold structure, the device provides the most stable isolation feature. The products are widely used in switch mode power supplies, programmable controllers, household appliances and office equipment.



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

(Temperature=25°C)

Parameter		Symbol	Value	Unit
Input	Forward Current	I_F	50	mA
	Peak Forward Current	I_{FP}	1①	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}	6	V
	Collector Current	I_C	150	mA
	Power Dissipation	P_C	150	mW
Total Power Dissipation		P_{tot}	225	mW
Isolation Voltage		V_{iso}	3750②	Vrms
Operating Temperature		T_{opr}	-55~+110	℃
Junction Temperature		T_j	125	℃

Storage Temperature	T_{stg}	-55~+125	℃
Soldering Temperature	T_{sol}	260	℃

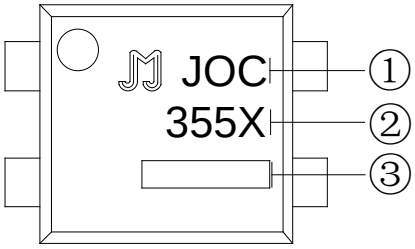
100μs pulse, 100Hz frequency
AC for 1minute, R.H.=40~60%

(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	-	10	-	pF
Output	Collector-Emitter dark current	I_{CEO}	V_{CE}=20V, I_F=0	-	-	200	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	6	-	-	V
Transfer Characteristics	Current transfer ratio	CTR	I_F=1mA V_{CE}=2V	1000	-	7500	%
	Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_F=1mA I_C=10mA	-	-	1	V
	Isolation resistance	R_{IO}	DC500V 40~60%R.H.	10^{12}	-	-	Ω
	Floating Capacitance	C_{IO}	V=0, f=1MHz	-	0.8	-	pF
	Rise Time	t_r	V_{CE}=10V, I_C=10mA R_L=100Ω	-	40	-	μs
	Fall Time	t_f		-	15	-	μs
	Response Time	t_{on}		-	50	-	μs
		t_{off}		-	15	-	μs

Rank Table of Current Transfer Ratio (Temperature=25°C)

Grade Sign	Test Condition	Min. (%)	Max. (%)
	I_F CE	-	110
J	I_F=29 CE	450	-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①
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③

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

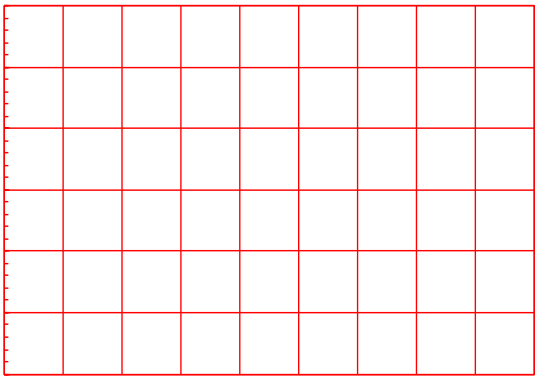
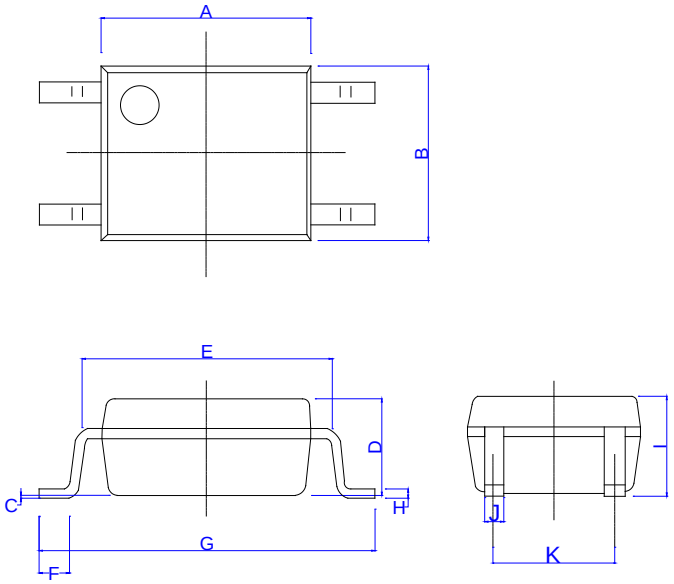
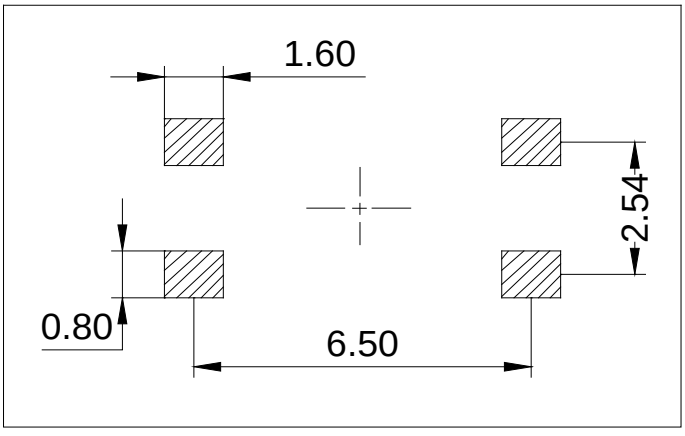


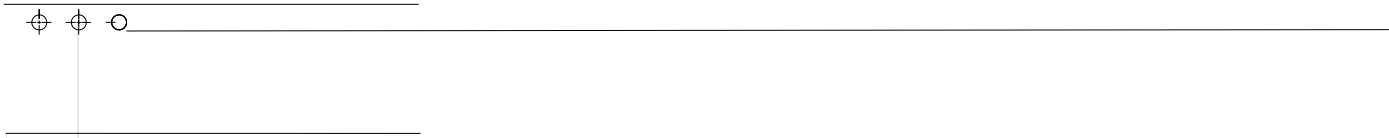
FIG.2: Collector Power Dissiption vs. Ambient Temperature

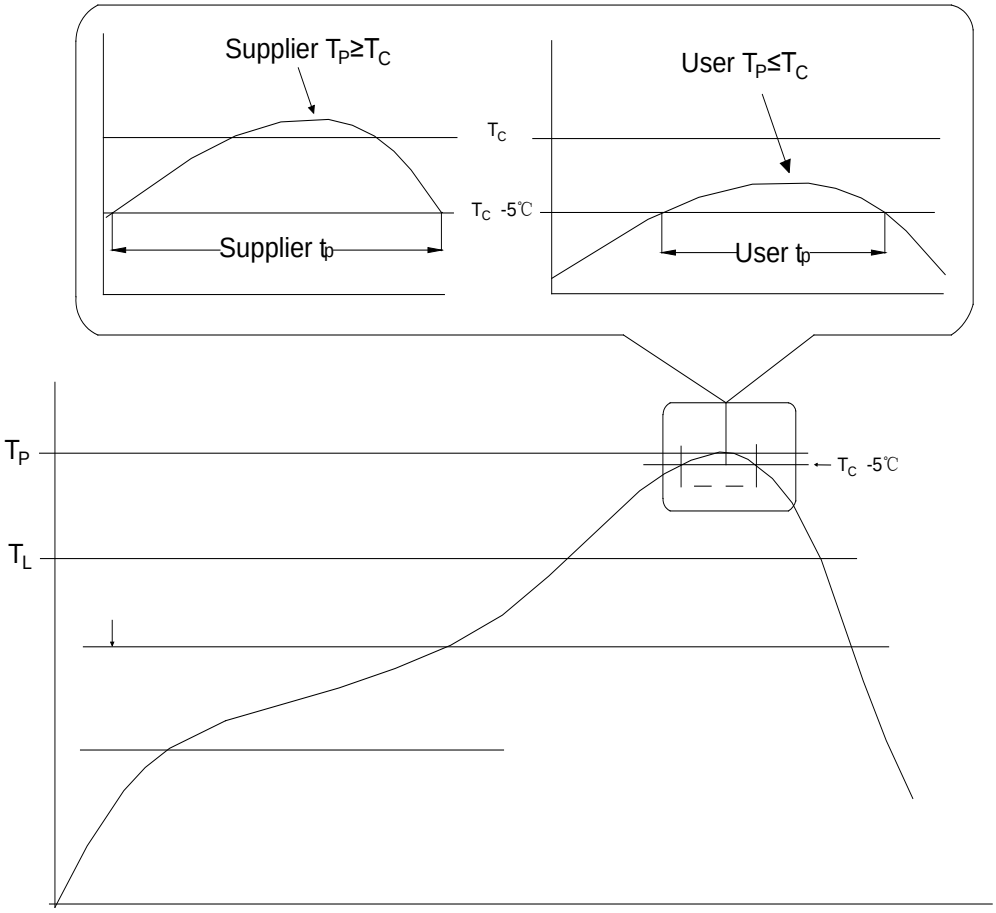


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.80	0.173		0.189
B	3.60		4.20	0.142		0.165
C	0.00		0.20	0.000		0.008
D	1.90		2.30	0.075		0.091
E	5.00		5.60	0.197		0.220
F	0.34		0.94	0.013		0.037
G	6.70		7.30	0.264		0.287
H	0.10		0.30	0.004		0.012
I	2.00		2.40	0.079		0.094
J	0.25		0.55	0.010		0.022
K	2.29		2.79	0.090		0.110



Option T1




Supplier $T_P \geq T_C$
User $T_P \leq T_C$
T_C
T_C -5℃
Supplier t_p
User t_p
T_P
T_L
T_C -5℃

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 under standard conditions.

6. Recommend storage Temp.: 0~40°C;

Recommend storage humidity: <60%;

MSL level: MSL 1

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