JOCT354Xt-M4 Series

Rev.A.1.0

DESCRIPTION:

The products are 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.

MAIN FEATURES

High isolation 3750 VRMS
Operating temperature range -55ÁC to 125ÁC
RoHS & REACH Compliance
HBM: H3A; MM: M4; CDM:C3
CQC approved
VDE approved
UL approved

ABSOLUTE MAXIMUM RATINGS (Temperature=25ÁC)

Parameter		Symbol	Value	Unit
Input	Forward Current	I_F	50	mA
	Peak Forward Current	I_{FP}	1	A

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

NOTE1: 100εs pulse, 100Hz frequency
NOTE2: AC for 1minute, R.H.=40~60%

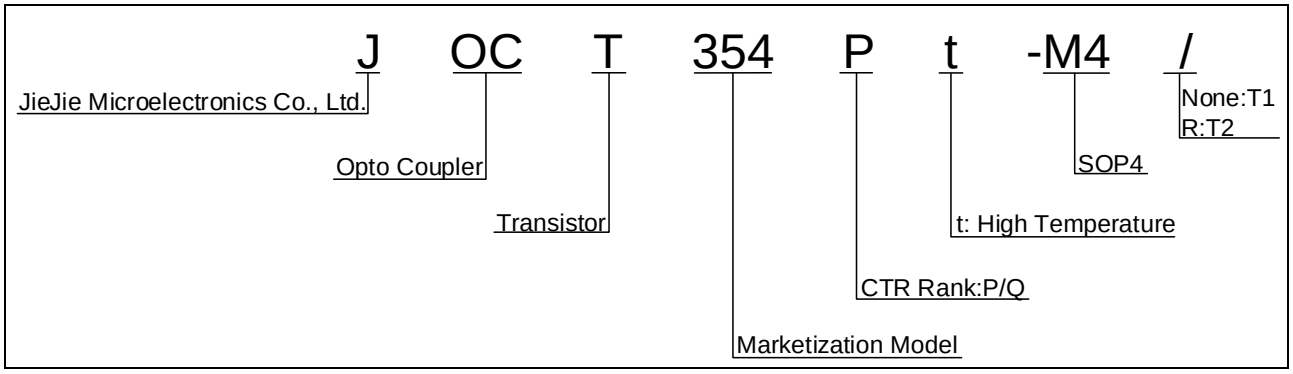
ELECTRICAL CHARACTERISTICS (Temperature=25ÁC)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V_F	I_F=Ñ10mA			1.	V
	Terminal Capacitance	C_t	V=0, f=1MHz	-	10	-	pF
Output	Collector-Emitter dark current	I_{CEO}	V_{CE}=20V, I_F=0	-	-	100	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=Ñ5mA V_{CE}=5V	100	-	400	%
	Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_F=Ñ20mA I_C= 1mA	-	0.07	0.2	V
	Isolation resistance	R_{IO}	DC500V 40~60%R.H.	10^{12}	10^{14}	-	q
	Floating Capacitance	C_{IO}	V=0, f=1MHz	-	0.4	1	pF
	Cut-off Frequency	f_c	V_{CE}=5V, I_C=2mA R_L=100q, -3dB	-	80	-	kHz
	Rise Time	t_r	V_{CE}=2V, I_C=2mA R_L=100q	-	4	18	εs
	Fall Time	t_f		-	5	18	εs
	Response Time	t_{on}		-	7	25	εs
		t_{off}		-	6	25	εs

NOTE1: Rank Table of Current Transfer Ratio (Temperature=25°C)

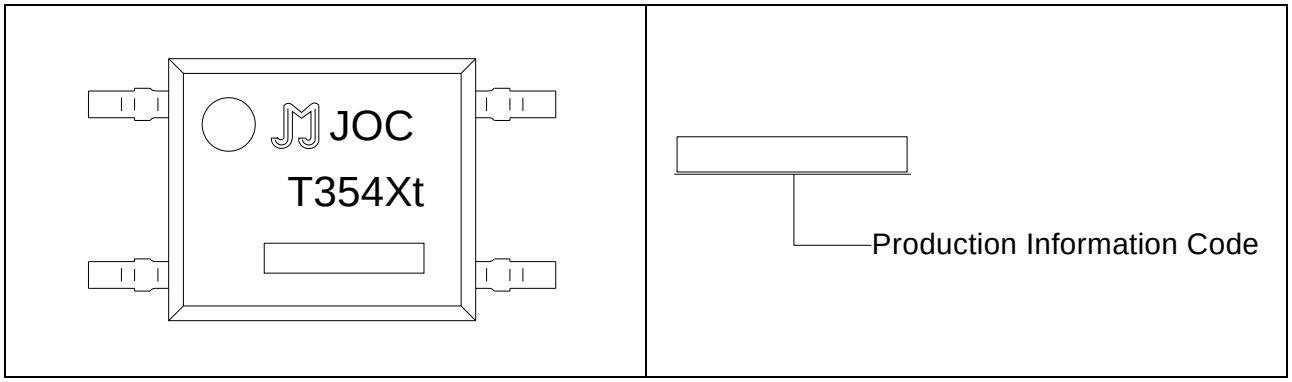
CTR Rank	Min. (%)	Max. (%)	Test Condition
P	200	400	I_F=Ñ0.5mA, V_{CE}=5V
	200	400	I_F=Ñ5mA, V_{CE}=5V
Q	100	300	I_F=Ñ0.5mA, V_{CE}=5V
	100	300	I_F=Ñ5mA, V_{CE}=5V

ORDERING INFORMATION



Packing Quantity			
Option	**Quantity**	**Quantity – Inner box**	**Quantity –Outer box**
SOP4	3000 Units/Reel	2 Reels/Inner box	5 Inner box/Outer box =30k Units

MARKING



Characteristics Curves

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

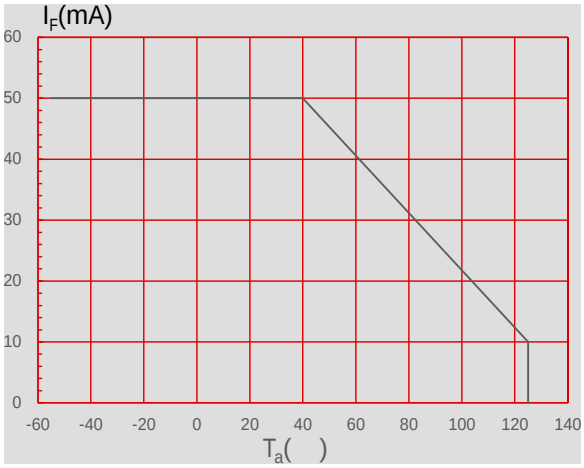


FIG.2: Collector Power Dissiption vs. Ambient Temperature

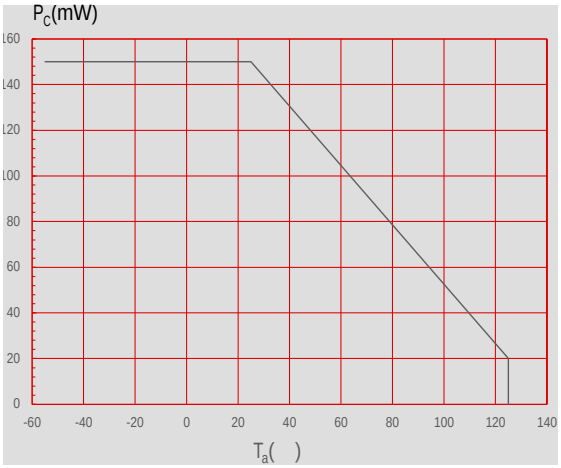


FIG.3: Forward Current vs. Forward Voltage

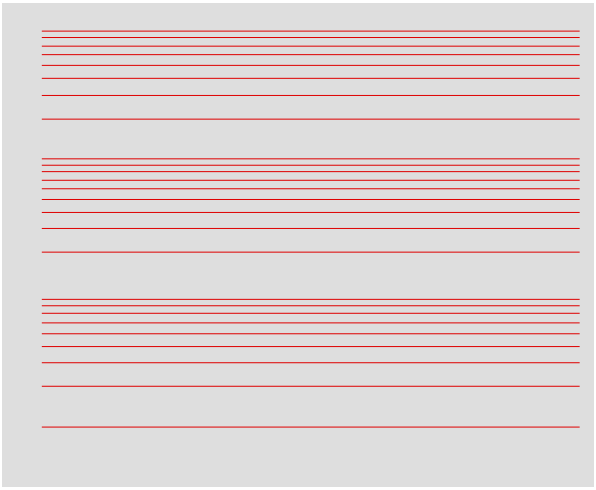


FIG.4: Normalized Collector Dark Current vs. Ambient Temperature

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

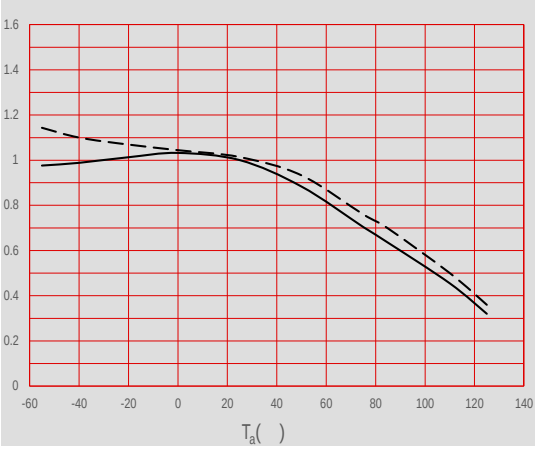
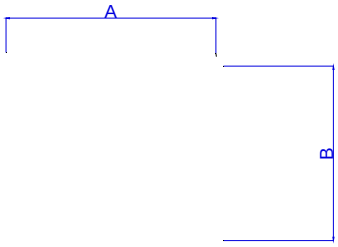


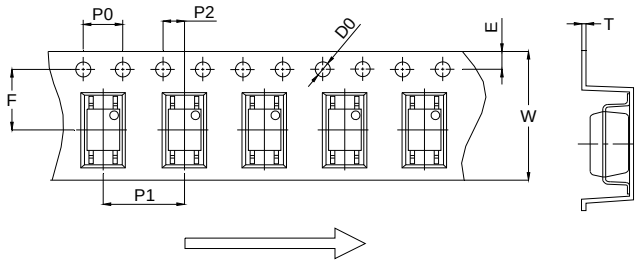
FIG.8: Normalized Collector-emitter Saturation Voltage vs. Ambient Temperature

Package Dimension (Unit: mm)



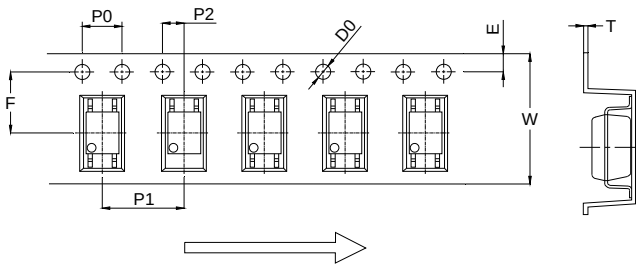
CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

Option None



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0		1.50	1.60		0.059	0.063
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	7.90	8.00	8.10	0.311	0.315	0.319
P2	1.90	2.00	2.10	0.075	0.079	0.083
E	1.65	1.75	1.85	0.065	0.069	0.073
F	4.40	4.50	4.60	0.173	0.177	0.181
T	0.25	0.30	0.35	0.010	0.012	0.014
W	11.90	12.00	12.30	0.469	0.472	0.484

Option R



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0			1.60			0.063
P0	3.90		4.10	0.154		0.161
P1	7.90		8.10	0.311		0.319
P2	7.90		8 ž 08	0.06B	_	0.
E						
F						8 ž 3u
T						
W					8 ž 0	

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JOCT354Xt

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.: 0~40ÁC;

Recommend storage humidity: <60%;

MSL level: MSL 1

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