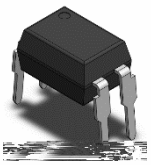
JOCT814X-D4P/S Series

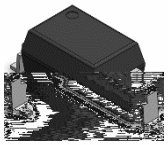
Rev.A.1.0

DESCRIPTION:

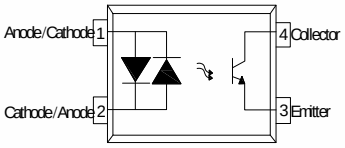
The products are transistor opto-couplers in a plastic DIP4 package with different lead forming options, that infrared LED chip and photo-transistor chip are assembled on lead frame, in order to change the electricity-light-electricity. The products are widely used in transmission and conversion of digital logic, power control and switch, electric insulation and impedance conversion between circuits systems, etc.



JOCT814X-D4P



JOCT814X-D4S



MAIN FEATURES

High isolation 5000 VRMS
AC input with transistor output
Operating temperature range -55ÁC to 110ÁC
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
	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	50	mA
	Power Dissipation	P_O	150	mW
Total Power Dissipation		P_{tot}	225	mW
Isolation Voltage		V_{iso}	5000	Vrms
Operating Temperature		T_{opr}	-55~+110	
Junction Temperature		T_j	125	

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	-	1.2	1.5	V
	Input Capacitance	C_{in}	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	6	-	-	V
Transfer Characteristics	Current transfer ratio	CTR	I_F=Ñ1mA V_{CE}=5V	20	-	400	%
	Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_F=Ñ20mA I_C= 1mA	-	0.06	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}		-	8	25	εs
		t_{off}		-	6	25	εs

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

Grade Sign	Min. (%)	Max. (%)
None	20	400
A	50	150
B	80	400



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

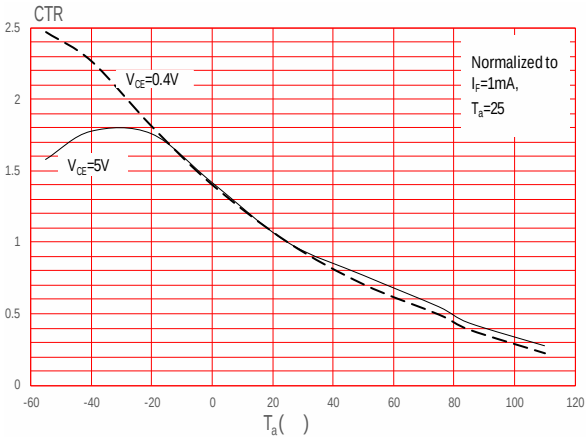


FIG.8: Normalized Collector-emitter Saturation Voltage vs. Ambient Temperature

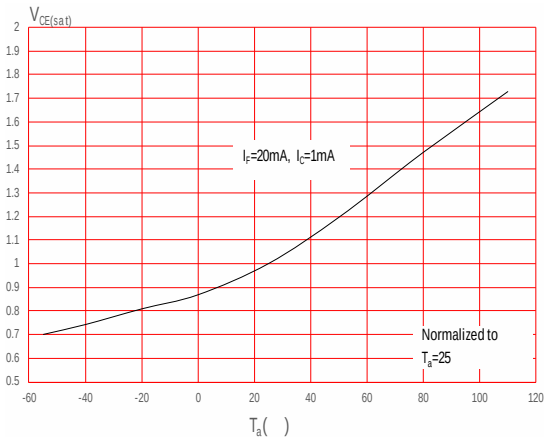


FIG.9: Response Time vs. Load Resistance

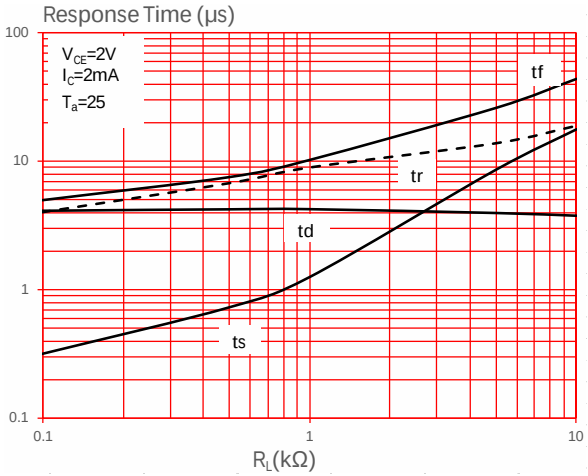
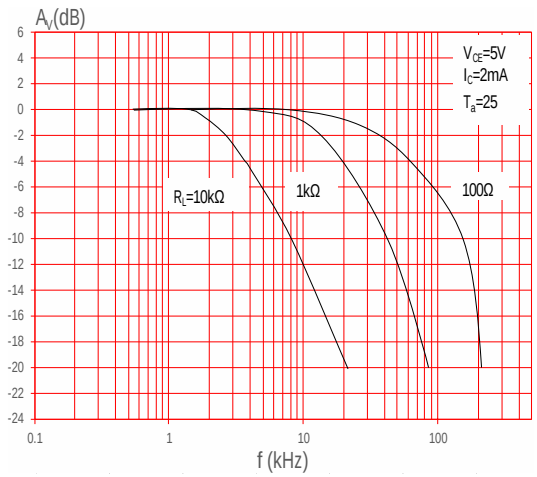


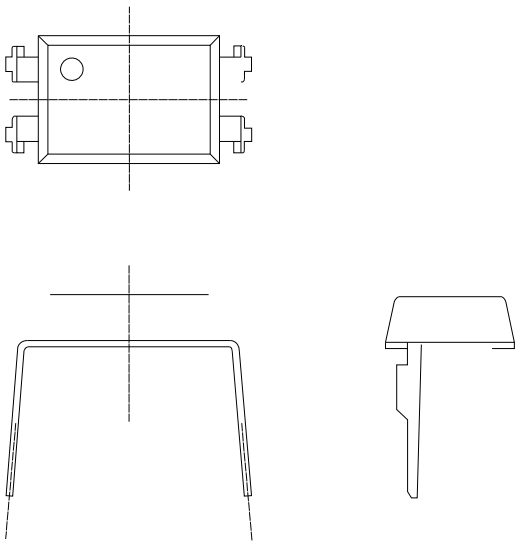
FIG.10: Frequency Response



JOCT814X

Package Dimension (Unit: mm)

Standard DIP Type:

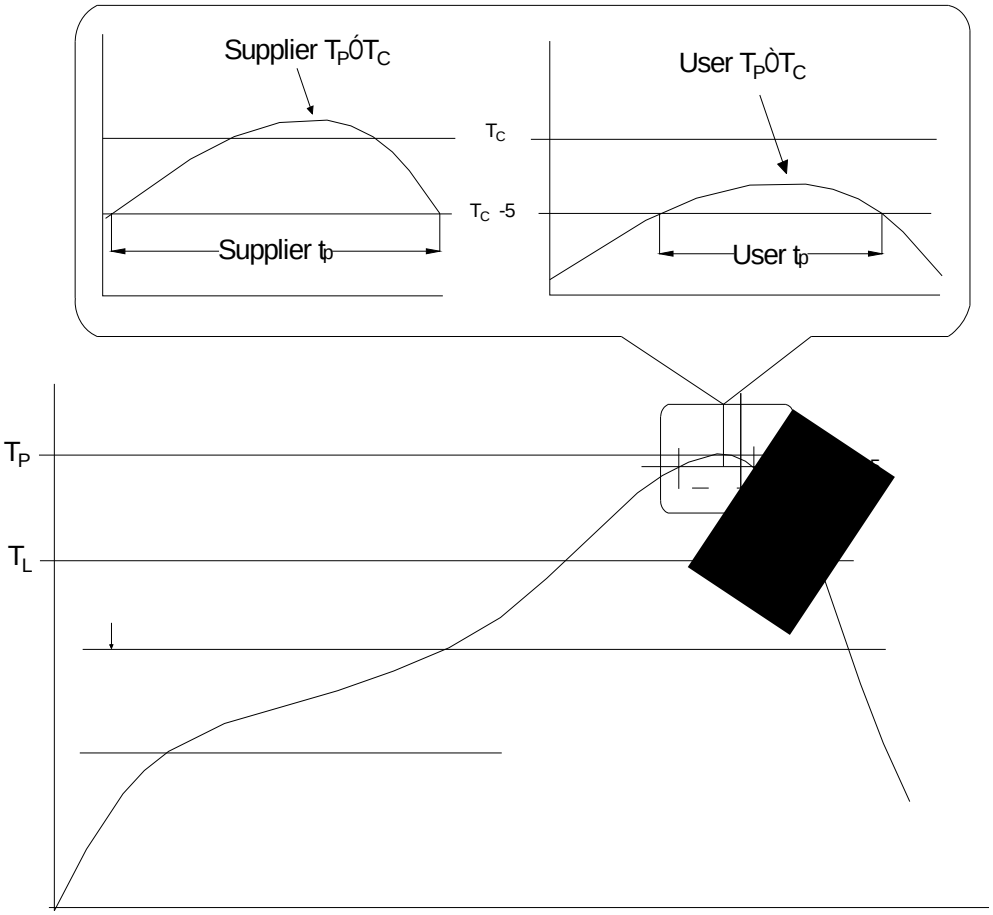


RECOMMENDED SOLDER MASK (Dimensions in mm unless otherwise stated)



CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

REFLOW INFORMATION



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