

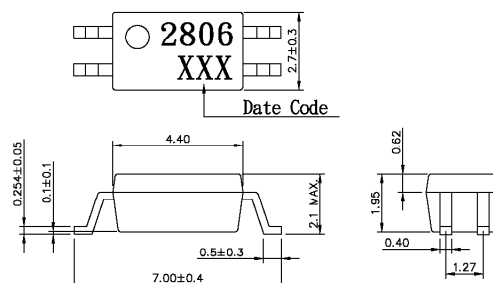
Features

1. High isolation voltage (BV=2500 Vrms)
2. Small and thin package (4pin SOP , Pin pitch 1.27 mm)
3. AC input response
4. High current transfer ratio
(CTR=2000% TYP. @ $I_F=1\text{mA}$, $V_{CE}=2\text{V}$)

Applications

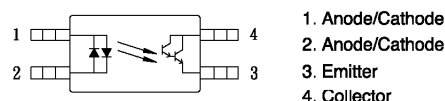
1. Programmable logic controllers
2. Measuring instruments
3. Hybrid IC

Outside Dimension:Unit (mm)



TOLERANCE : ± 0.2mm

Schematic:Top View



Absolute Maximum Ratings

(Ta=25°C)

	Parameter	Symbol	Rating	Unit
Input	Forward current (DC)	I_F	± 50	mA
	Power dissipation derating	$P_D/^\circ\text{C}$	0.6	mW / °C
	Power dissipation	P_D	60	mW
	Peak forward current *1	I_{FP}	± 1	A
Output	Collector-emitter voltage	V_{CEO}	40	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	90	mA
	Power dissipation derating	$P_C/^\circ\text{C}$	1.2	mW / °C
	Total power dissipation	P_C	120	mW
	Isolation voltage *2	Viso	2500	Vrms
	Operating temperature	Topr	-30 to +100	°C
	Storage temperature	Tsig	-55 to +150	°C

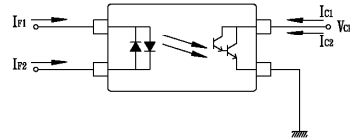
*1 $P_W=100\ \mu\text{s}$, duty cycle=1%*2 AC voltage for 1 minute at $T_A=25^\circ\text{C}$, RH=60% between input and output

Electro-optical Characteristics

(Ta=25°C)

	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F=\pm 5\text{mA}$	—	1.1	1.4	V
	Terminal capacitance	C t	$V=0\text{V}$, $f=1.0\text{MHz}$	—	60	—	pF
Output	Collector-emitter dark current	I_{CEO}	$V_{CE}=40\text{V}$, $I_F=0\text{mA}$	—	—	400	nA
Transfer characteristics	Current transfer ratio (I_C / I_F)	CTR	$I_F=\pm 1\text{mA}$, $V_{CE}=2\text{V}$	200	2000	—	%
	CTR ratio *1	CTR1/CTR2	$I_F=1\text{mA}$, $V_{CE}=2\text{V}$	0.3	1.0	3.0	—
	Collector saturation voltage	$V_{CE}(\text{sat})$	$I_F=\pm 1\text{mA}$, $I_C=2\text{mA}$	—	—	1.0	V
	Isolation resistance	Viso	$V_{I-O}=500\text{VDC}$	5×10^{10}	10^{11}	—	ohm
	Floating capacitance	Cf	$V=0\text{V}$, $f=1.0\text{MHz}$	—	0.4	—	pF
	Response time (Rise)*2	tr	$V_{CE}=5\text{V}$, $I_C=2\text{mA}$, $R_L=100\text{ohm}$	—	200	—	μs
	Response time (Fall)*2	tf		—	200	—	μs

*1 $CTR1=I_{C1}/I_{F1}$, $CTR1=I_{C2}/I_{F2}$



*2 Test circuit for switching time

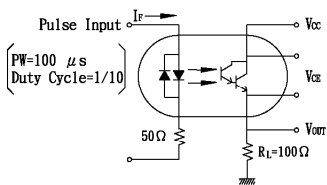


Fig.1 Forward Current vs. Ambient Temperature

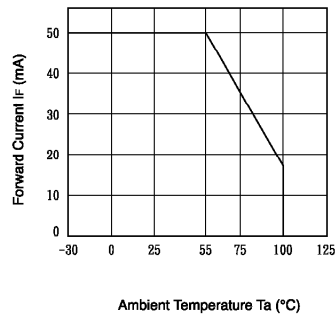


Fig.2 Collector Power Dissipation vs. Ambient Temperature

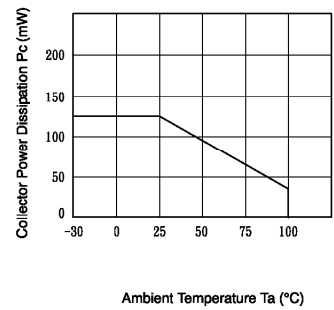


Fig.3 Peak Forward Current vs. Duty Ratio

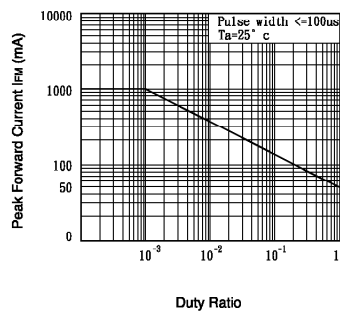


Fig.4 Forward Current vs. Forward Voltage

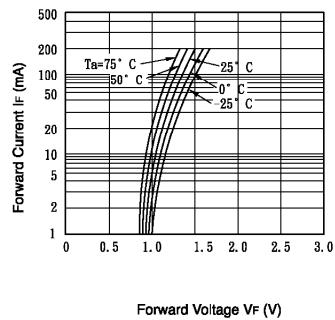


Fig.5 Current Transfer Ratio vs. Forward Current

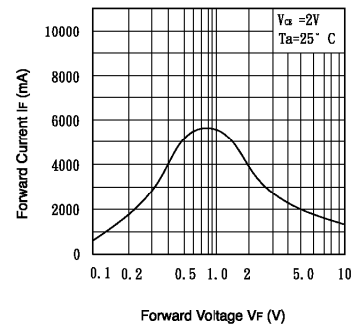


Fig.6 Collector Current vs. Collector-emitter Voltage

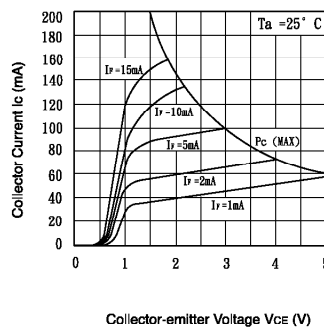


Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

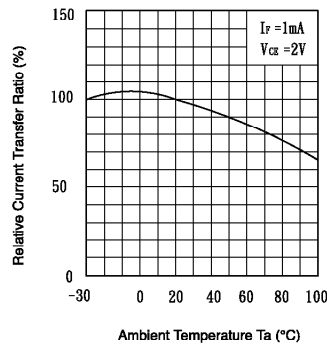


Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

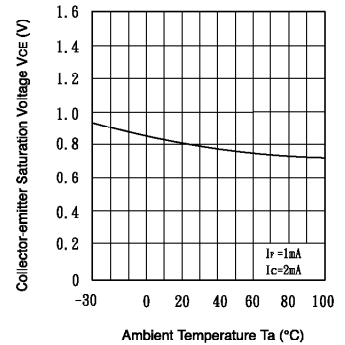


Fig.9 Collector Dark Current vs. Ambient Temperature

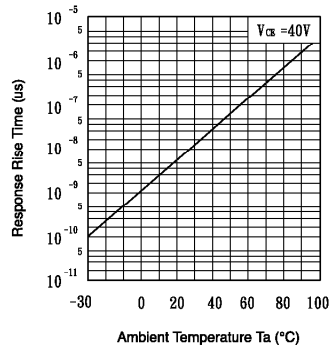


Fig.10 Response Time vs. Load Resistance

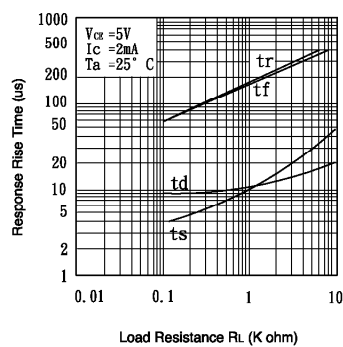


Fig.11 Collector-emitter Saturation Voltage vs. Forward Current

