

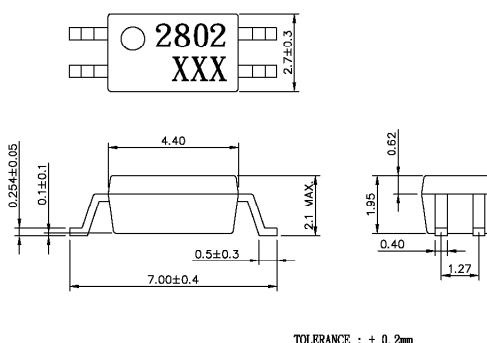
Features

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

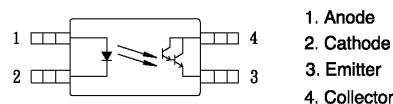
Applications

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

Outside Dimension:Unit (mm)



Schematic:Top View



Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Input			
Forward current (DC)	I_F	50	mA
Reverse voltage	V_R	6	V
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	V_{iso}	2500	Vrms
Operating temperature	T_{opr}	-30 to +100	°C
Storage temperature	T_{stg}	-55 to +150	°C

*1 $PW=100\ \mu\text{s}$, 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	$I_F=5\text{mA}$	—	1.1	1.4	V
Reverse current	I_R	$V_R=5\text{V}$	—	—	5	μA
Terminal capacitance	C_t	$V=0\text{V}$, $f=1.0\text{MHz}$	—	30	—	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	$I_F=1\text{mA}$, $V_{CE}=2\text{V}$	200	2000	—	%
Collector saturation voltage	$V_{CE(sat)}$	$I_F=1\text{mA}$, $I_C=2\text{mA}$	—	—	1.0	V
Isolation resistance	R_{iso}	$V_{i-o}=500\text{VDC}$	5×10^{10}	10^{11}	—	ohm
Floating capacitance	C_f	$V=0\text{V}$, $f=1.0\text{MHz}$	—	0.4	—	pF
Response time (Rise)*1	t_r	$V_{CE}=5\text{V}$, $I_C=2\text{mA}$, $R_L=100\text{ohm}$	—	200	—	μs
Response time (Fall)*1	t_f		—	200	—	μs

*1 Test circuit for switching time

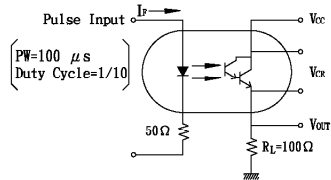


Fig.1 Forward Current vs. Ambient Temperature

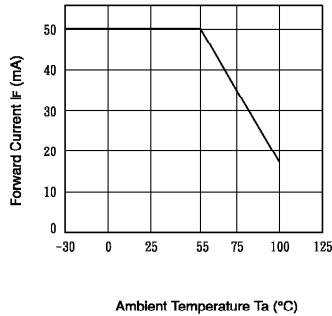


Fig.2 Collector Power Dissipation vs. Ambient Temperature

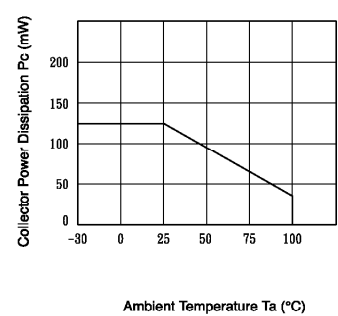


Fig.3 Peak Forward Current vs. Duty Ratio

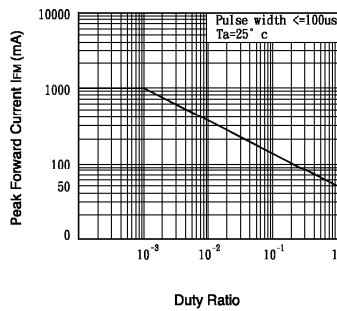


Fig.4 Forward Current vs. Ambient Temperature

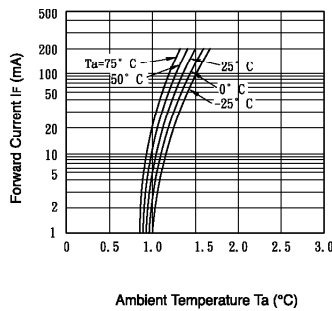


Fig.5 Current Transfer Ratio vs. Forward Current

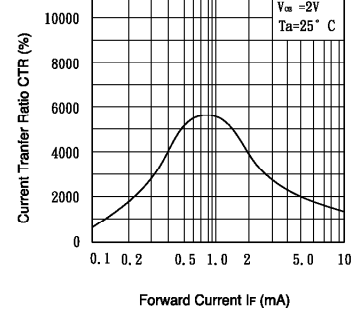


Fig.6 Collector Current vs. Collector-emitter Voltage

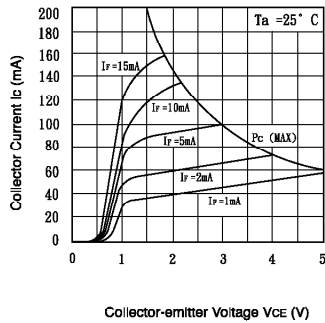


Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

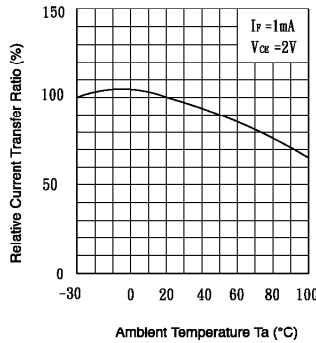


Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

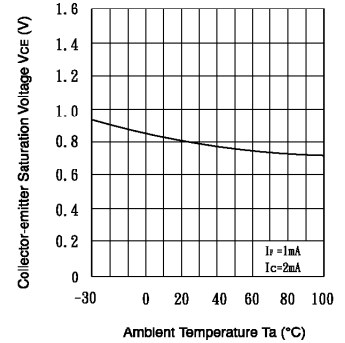


Fig.9 Collector Dark Current vs. Ambient Temperature

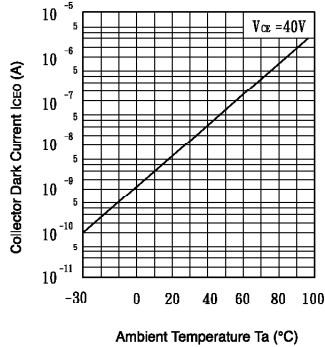


Fig.10 Response Time vs. Load Resistance

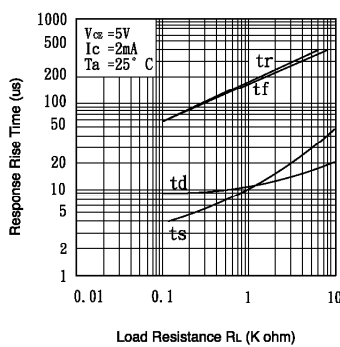


Fig.11 Collector-emitter Saturation Voltage vs. Forward Current

