USR/CNR Listed (File# E223387)

Features

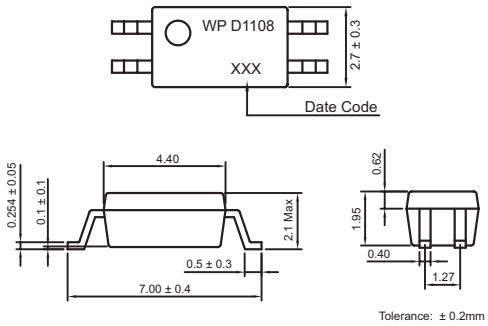
1. High isolation voltage (BV = 2500 VRMS)
2. Small thin package (4-pin SSOP, Pin pitch 1.27mm)
3. High collector to emitter voltage (VCEO = 80V)
4. AC input response.
5. High speed switching (tr = 3us typ., tf = 5us typ.)
4. Available package types: SSOP(shown).

Applications

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

Part Numbering System: Page 2. **Part Marking System:** Page 4.

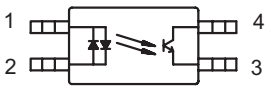
Outside Dimension: Unit (mm)



Tolerance: ± 0.2mm

TOLERANCE: ±0.2mm

Schematic: Top View



1. Anode/Cathode
2. Anode/Cathode
3. Collector
4. Emitter

Absolute Maximum Ratings

(Ta = 25°C)

Parameter		Symbol	Rating	Unit
Input	Forward Current(DC)	IF	±50	mA
	Power Dissipation derating	PD/°C	0.6	mW/°C
	Power Dissipation	PD	60	mW
	Peak forward current*1	IFP	±1	A
Output	Collector-emitter voltage	VCEO	80	V
	Emitter-collector voltage	VECO	6	V
	Collector current	IC	50	mA
	Power dissipation derating	PC/°C	1.2	mW/°C
Total Power Dissipation		Pc	120	mW
Isolation voltage*2		Viso	2500	Vrms
Operating Temperature		Topr	-30 to +100	°C
Storage Temperature		Tstg	-55 to +150	°C

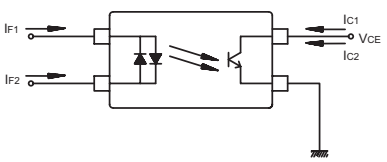
*1 PW = 100us, Duty Cycle = 1%
*2 AC voltage for 1 minute at TA = 25°C, RH = 60% between input and output

Electro-optical Characteristics

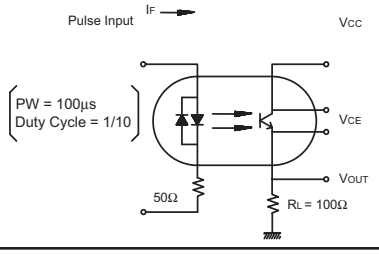
(Ta = 25°C)

Parameter		Symbol	Conditions	Min.	Typ.	Max.	Unit
Input	Forward Voltage	VF	IF = ±5mA	-	1.1	1.4	V
	Terminal Capacitance	Ct	V = 0, f = 1, 0MHz	-	60	-	pF
Output	Collector-emitter dark current	ICEO	VCE = 80V, IF = 0mA	-	-	100	nA
Transfer Characteristics	Current transfer ratio(IC/IF)	CTR	IF = ±5mA, VCE = 5V	80	-	600	%
	CTR ratio*1	CTR1/CTR2	IF = 5mA, VCE = 5V	0.3	1.0	3.0	
	Collector Saturation Voltage	VCE(sat)	IF = ±10mA, Ic = 2mA	-	-	0.3	V
	Isolation resistance	RI-O	VI-O = 500VDC	5 x 10^{10}	10^{11}	-	ohm
	Floating capacitance	CI-O	V = 0, f = 1, 0MHz	-	0.4	-	pF
	Response time (Rise)*2	tr	Vce = 5V, IC = 2mA, RL = 100Ω	-	3	-	us
	Response time (Fall)*2	tf		-	5	-	us

*1 CTR1 = IC1 / IF1, CTR2 = IC2 / IF2



*2 Test circuit for switching time



Data Curves

Fig.1 Current Transfer Ratio vs. Forward Current

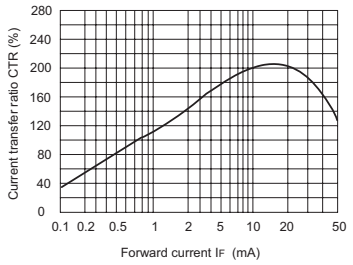


Fig.2 Collector Power Dissipation vs. Ambient Temperature

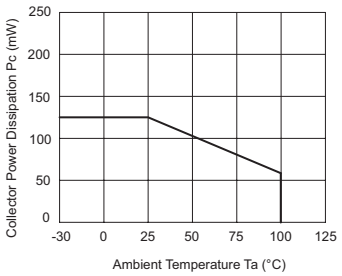


Fig.3 Collector Dark Current vs. Ambient Temperature

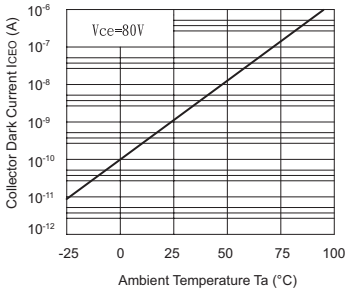


Fig.4 Forward Current vs. Ambient Temperature

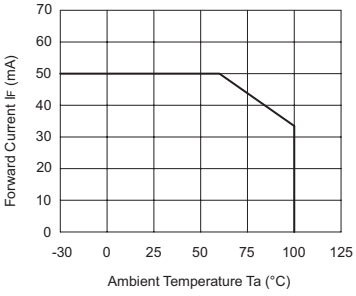


Fig.5 Forward Current vs. Forward Voltage

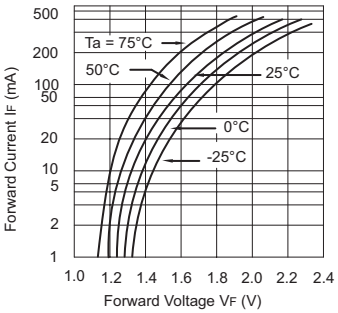


Fig.6 Collector Current vs. Collector-emitter Voltage

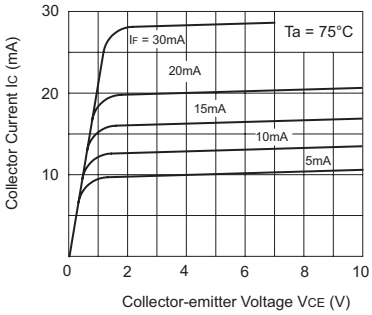


Fig.7 Collector-emitter Saturation Voltage vs. Ambient Temperature

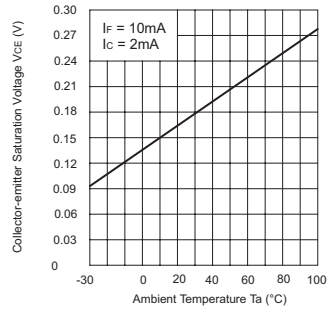


Fig.8 Collector-emitter Saturation Voltage vs. Forward Current

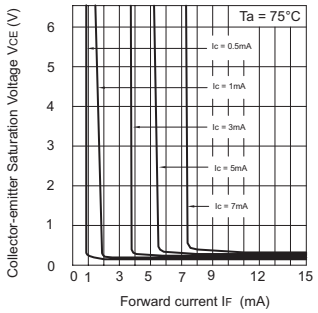


Fig.9 Response Time vs. Load Resistance

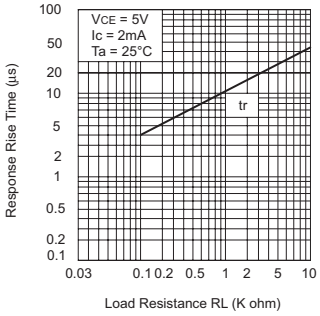


Fig.10 Response Time vs. Load Resistance

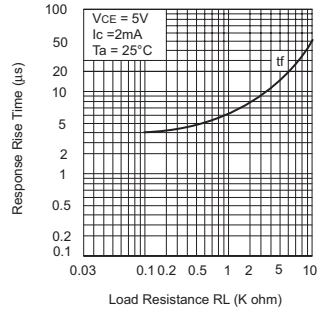


Fig.11 Relative Current Transfer Ratio vs. Ambient Temperature