



Part Numbering System

WPPC - **D** **1** **1** **08** **4** **E** **SS** - **TRU**
(1) (2) (3) (4) (5) (6) (7) (8) (9)

(1) Photo Coupler

(2) Input

A: AC
D: DC

(3) Channel

1: 1 Channel
2: 2 Channels
4: 4 Channels

(4) Output Configuration

1: Single Photo Transistor
2: Darlington Photo Transistor
3: (6-pin only) Single Photo Transistor without base terminal

(5) Output Type

Collector Emitter Voltage

03: 30V(V_{CEO})
035: 35V(V_{CEO})
06: 60V(V_{CEO})
08: 80V(V_{CEO})
30: 300V(V_{CEO})

Propagation Delay Time

D008: 1M bit/s*
D015: 1M bit/s*
D35: High Gain Split PD*
D60: High Gain Split PD*

*Digital High Speed Parts: Code denotes max propagation delay.

(6) Pin Configuration

4: 4pin
6: 6pin
8: 8pin
16: 16pin

(7) CTR Ranking

Note: The below ranking pertains to WPPC-D11084 Series. No CTR Ranking for Digital High Speed Parts.

Rank	CTR(%)
A	80-600
B	130-260
C	200-400
D	300-600
E	80-600
F	200-300
G	150-300
H	100-200

(8) Package Types

D: DIP
A: SMD
S: SOP
SS: SSOP
H: Long Creepage Distance

(9) Taping

TLD: Tape Direction Left
TRU: Tape Direction Right

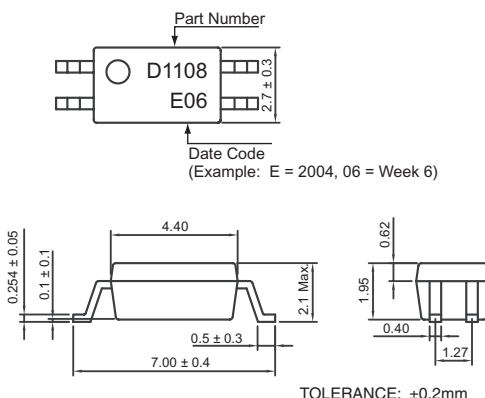
Features

1. High isolation voltage ($BV = 2500 V_{RMS}$)
2. Small thin package (4-pin SSOP, Pin pitch 1.27mm)
3. High collector to emitter voltage ($V_{CEO} = 80V$)
4. High speed switching ($t_r = 3\mu s$ typ., $t_f = 5\mu s$ typ.)
5. Available package types: SSOP(shown).

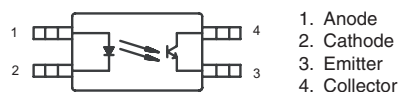
Applications

1. Programmable logic controllers.
2. Measuring instruments.
3. Power supply.
4. Hybrid IC.
5. Gaming machines.

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	$P_D/\text{°C}$	0.6	mW/°C
	Power Dissipation	P_D	60	mW
	Peak Forward Current*1	I_{FP}	1	A
Output	Collector-Emitter Voltage	V_{CEO}	80	V
	Emitter-Collector Voltage	V_{ECO}	6	V
	Collector Current	I_C	50	mA
	Power Dissipation Derating	P_C	1.2	mW/°C
	Total Power Dissipation	P_{tot}	120	mW
Isolation Voltage*2		V_{iso}	2500	Vrms
Operating Temperature		T_{opr}	-30 to +100	°C
Storage Temperature		T_{stg}	-55 to +125	°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	V_F	$I_F = 5mA$	-	1.1	1.4	V
	Reverse Current	I_R	$V = 5V$	-	-	5	uA
	Terminal Capacitance	C_t	$V = 0V, f = 1, 0kHz$	-	30	-	pF
Output	Collector Dark Current	I_{CEO}	$V_{CE} = 80V, I_F = 0mA$	-	-	100	nA
Transfer Characteristics	Current Transfer Ratio	CTR	$I_F = 5mA, V_{CE} = 5V$	80	-	600	%
	Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_F = 10mA, I_C = 2mA$	-	-	0.3	V
	Isolation Resistance	R_{i-o}	DC500V	5×10^{10}	10^{11}	-	ohm
	Floating Capacitance	C_{i-o}	$V = 0V, f = 1.0MHz$	-	0.4	-	pF
	Response Time (Rise)	t_r	$V_{CE} = 5V, I_C = 2mA, R_L = 100\Omega$	-	3	-	us
	Response Time (Fall)	t_f		-	5	-	us

Data Curves

*1 Test circuit for switching time.

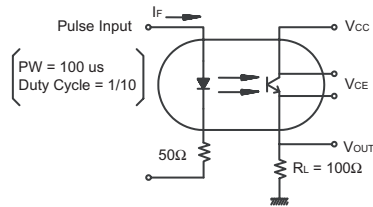


Fig. 1 Current Transfer Ratio vs. Forward Current

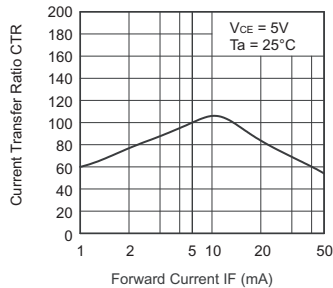


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

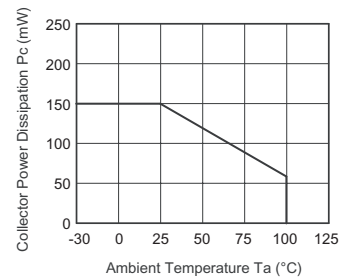


Fig. 3 Collector Dark Current vs. Ambient Temperature

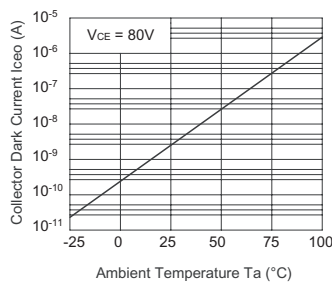


Fig. 4 Forward Current vs. Ambient Temperature

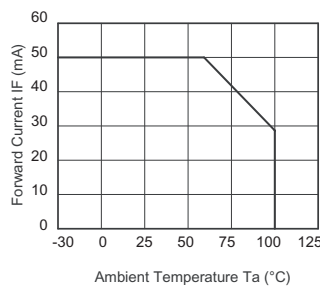


Fig. 5 Forward Current vs. Forward Voltage

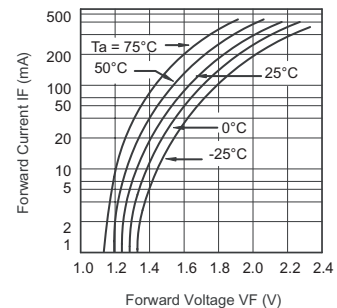


Fig. 6 Collector Current vs. Collector-Emitter Voltage

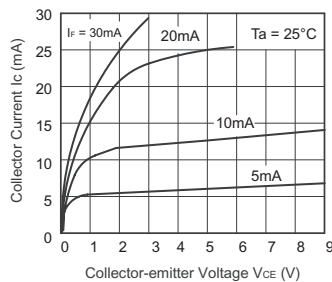


Fig. 7 Relative Current Transfer Ratio vs. Ambient Temperature

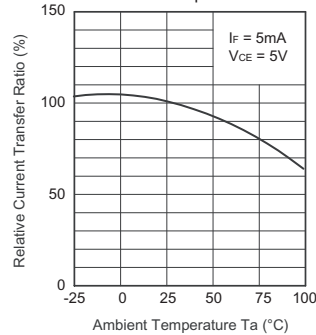


Fig. 8 Collector-emitter Saturation Voltage vs. Ambient Temperature

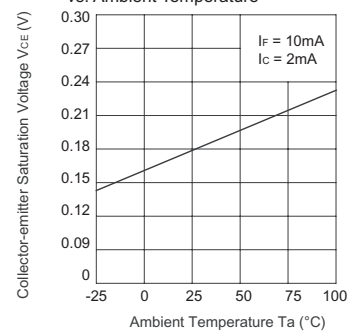


Fig. 9 Collector-Emitter Saturation Voltage vs. Forward Current

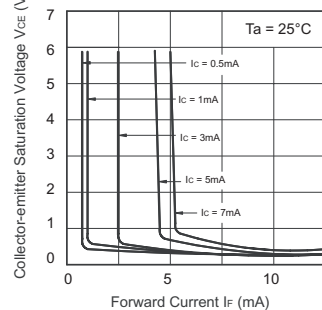


Fig. 10 Response Time vs. Load Resistance

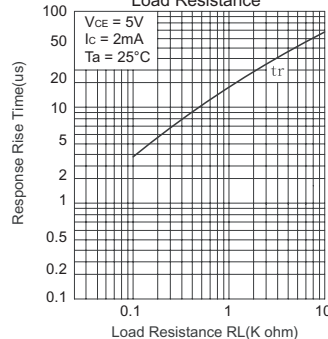


Fig. 11 Response Time vs. Load Resistance

