High Isolation Voltage Sop Multi Photocoupler

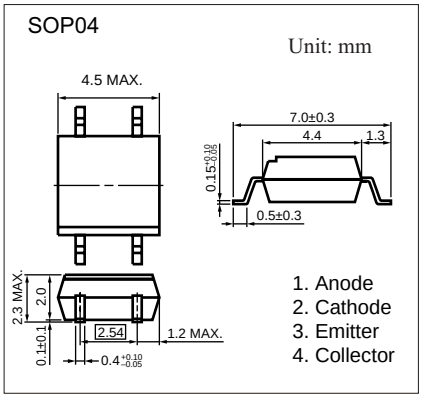
PS2701-1

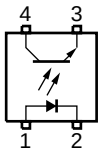
Features

High isolation voltage

High-speed switching

Ordering number of taping product





Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Diode	Forward Current (DC)	I_F	50	mA
	Peak Forward Current *1	I_{FP}	1	A
	Reverse Voltage	V_R	6	V
	Power Dissipation	P_D	80	mW
	Power Dissipation Derating	P_D/℃	0.8	mW/℃
Transistor	Collector-emitter voltage	V_{CEO}	40	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	80	mA
	Collector power dissipation	P_C	150	mW
	Power Dissipation Derating	P_C/℃	1.5	mW/℃
Isolation voltage *2		BV	3750	Vrms
Operating Ambient temperature		T_{opr}	-55 to +100	℃
Storage temperature		T_{stg}	-55 to +150	℃

*1 Pulse width=100μs, Duty Cycle : 1%

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

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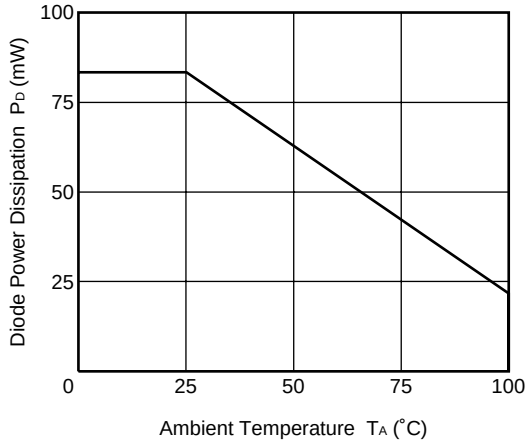
Electrical Characteristics Ta = 25℃

Parameter		Symbol	Testconditons	Min	Typ	Max	Unit
Diode	Forward voltage	V_F	I_F = 5mA		1.1	1.4	V
	Reverse current	I_R	V_R= 5V			5	μA
	Terminal capacitance	C_t	V= 0, f = 1MHz		30		pF
Transistor	Collector to Emitter Current	I_{CEO}	V_{CE} = 40V,I_F = 0 mA,			100	nA
Coupled	Transfer characteristics Current transfer ratio *3	CTR	I_F = 5mA, V_{CE} = 5V	50		300	%
	Collector Saturation Voltage	$V_{CE(sat)}$	I_F = 10mA, I_C = 2mA			0.3	V
	Isolation Resistance	R_{I-O}	V_{I-O} = 1 kVDC	10^{11}			Ω
	Isolation Capacitance	C_{I-O}	V= 0, f = 1MHz		0.4		pF
	Rise time	t_r	V_{CE} = 5V, I_C=2mA, R_L=100Ω		3		μs
	Fall time	t_f			5		μs

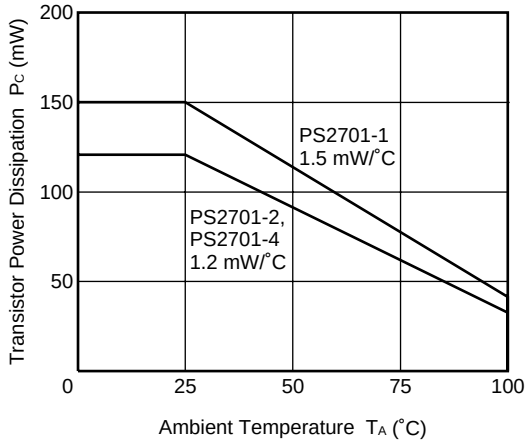
* 3 CTR rank :P: 150 to 300 (%), L: 100 to 300 (%), M: 50 to 150 (%).

Typlacl Characteristics

DIODE POWER DISSIPATION vs. AMBIENT TEMPERATURE



TRANSISTOR POWER DISSIPATION vs. AMBIENT TEMPERATURE



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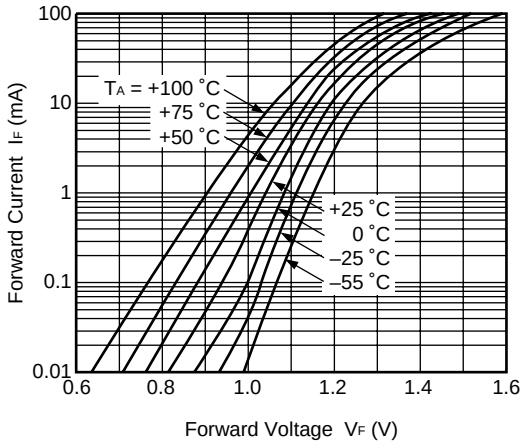
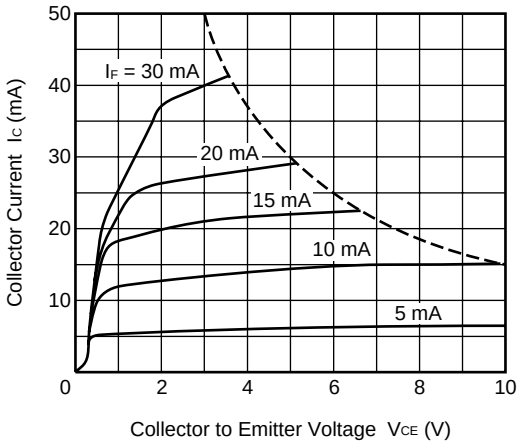
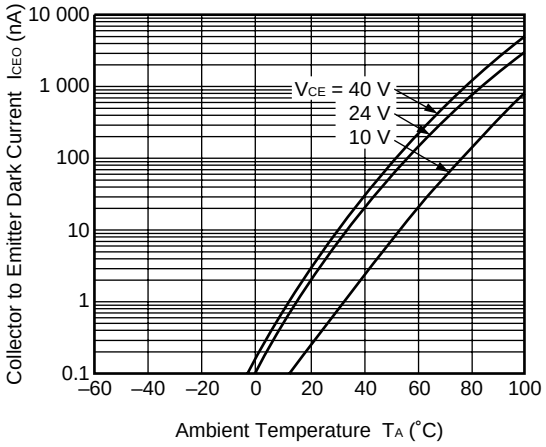
FORWARD CURRENT vs.
FORWARD VOLTAGE



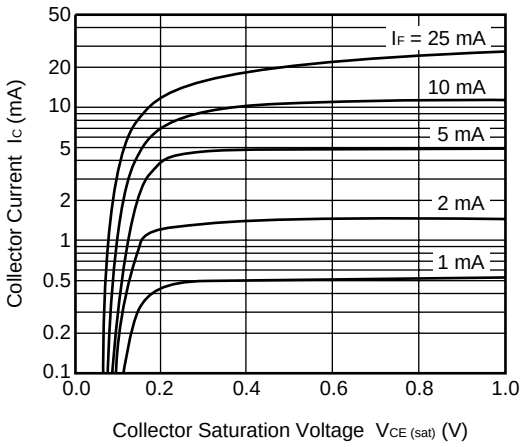
COLLECTOR CURRENT vs.
COLLECTOR TO EMITTER VOLTAGE



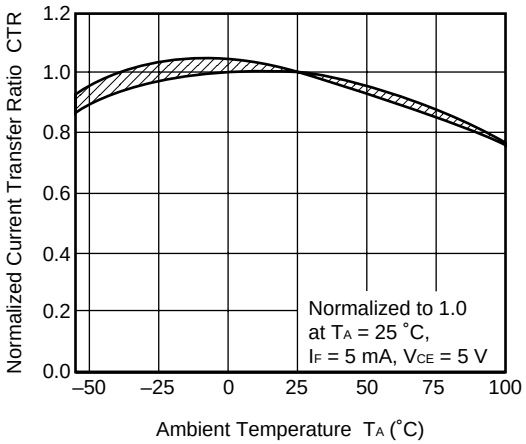
COLLECTOR TO EMITTER DARK
CURRENT vs. AMBIENT TEMPERATURE



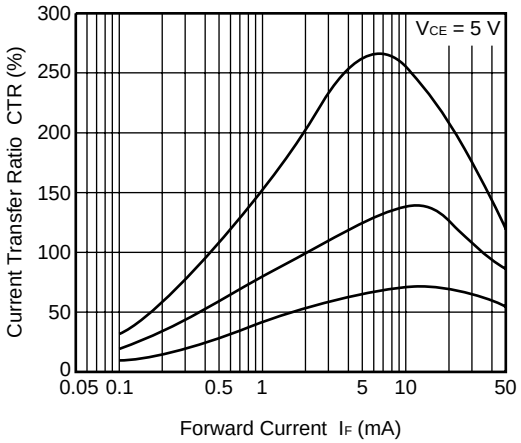
COLLECTOR CURRENT vs.
COLLECTOR SATURATION VOLTAGE



NORMALIZED CURRENT TRANSFER
RATIO vs. AMBIENT TEMPERATURE



CURRENT TRANSFER RATIO vs.
FORWARD CURRENT



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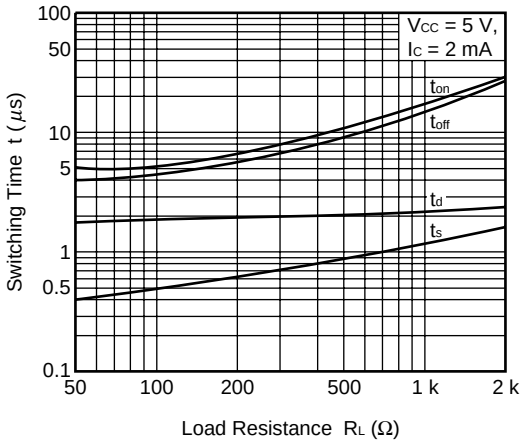
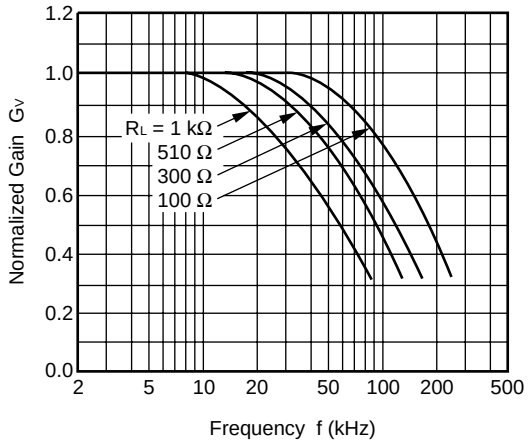
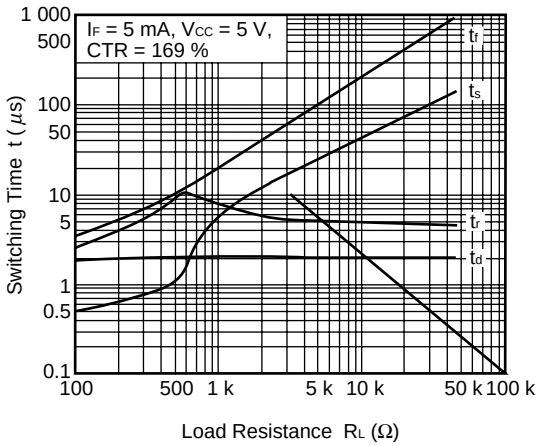
SWITCHING TIME vs.
LOAD RESISTANCE



FREQUENCY RESPONSE



SWITCHING TIME vs.
LOAD RESISTANCE



LONG TERM CTR DEGRADATION