

HIGH ISOLATION VOLTAGE AC INPUT LARGE FORWARD AC INPUT TYPE 6 PIN OPTOCOUPLER

PS2625
PS2625L
PS2626
PS2626L

FEATURES

- **HIGH ISOLATION VOLTAGE**
BV: 5 k Vr.m.s. MIN
- **AC INPUT RESPONSE**
- **LARGE FORWARD INPUT** (current)
IF: ±150 mA MAX
- **HIGH COLLECTOR TO EMITTER VOLTAGE**
VCEO: 80 V MIN
- **HIGH SPEED SWITCHING**
tr = 3 μs, tf = 5 μs TYP

DESCRIPTION

PS2625, PS2626, PS2625L and PS2626L are optically coupled isolators containing a GaAs light emitting diode and a NPN silicon phototransistor. PS2625 and PS2626 are in a plastic DIP (Dual In-line Package). PS2625L and PS2626L are lead bending type (Gull-wing) for surface mount. PS2625 and PS2625L have a base pin. PS2626 and PS2626L have no base pin.

APPLICATIONS

Interface circuit for various instrumentations and control equipments.

- **AC LINE / DIGITAL LOGIC**
- **DIGITAL LOGIC / DIGITAL LOGIC**
- **TWISTED PAIR LINE RECEIVER**
- **TELEPHONE / TELEGRAPH LINE RECEIVER**
- **HIGH FREQUENCY POWER SUPPLY
FEEDBACK CONTROL**

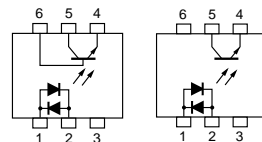
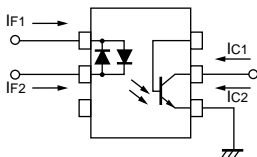
ELECTRICAL CHARACTERISTICS (TA = 25°C)

PART NUMBER			PS2625, PS2625L, PS2626, PS2626L			
SYMBOLS	PARAMETERS	UNITS	MIN	TYP	MAX	
Diode	VF	Forward Voltage, IF = ±100 mA	V	1.3	1.7	
	C	Junction Capacitance, V = 0, f = 1.0 MHz	pF	140		
Transistor	ICEO	Collector to Emitter Dark Current, VCE = 80 V, IF = 0	nA		100	
	BVCEO	Collector to Emitter Breakdown Voltage, IC = 1 mA, IB = 0	V	80		
	BVECO	Emitter to Collector Breakdown Voltage, IE = 100 μA, IB = 0	V	7		
Coupled	CTR	Current Transfer Ratio, IF = ±100 mA, VCE = 3 V	%	20	50	
	CTR1/CTR2	CTR Ratio ¹ , IF = ±100 mA, VCE = 3 V		0.3	1.0	3.0
	VCE(sat)	Collector Saturation Voltage, IF = ±100 mA, IC = 4 mA	V			0.3
	R1-2	Isolation Resistance, VIN-OUT = 1.0 k V	Ω	10 ¹¹		
	C1-2	Isolation Capacitance, V = 0, f = 1.0 MHz	pF		0.6	
	tr	Rise Time ² , VCC = 5 V, IC = 2 mA	μs		3	
	tf	Fall Time ² , VCC = 5 V, IC = 2 mA	μs		5	

Notes:

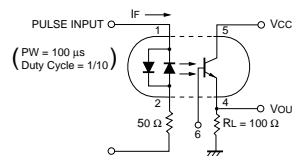
$$1. \text{CTR}_1 = \frac{I_{C1}}{I_{F1}}, \text{CTR}_2 = \frac{I_{C2}}{I_{F2}}$$

2. Test Circuit for Switching Time

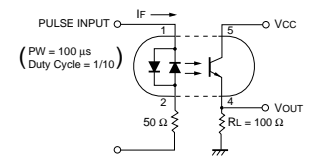


PS2625

PS2626



PS2625



PS2626

ABSOLUTE MAXIMUM RATINGS¹ (T_A = 25°C)

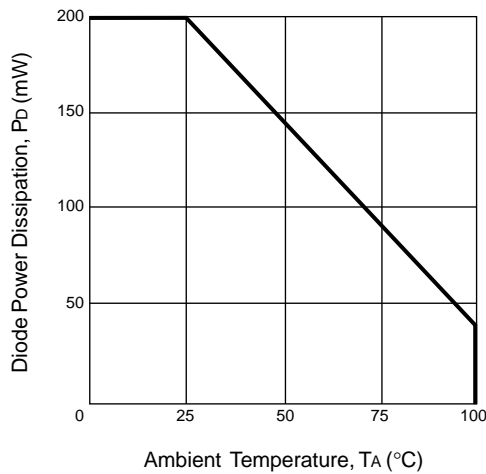
SYMBOLS	PARAMETERS	UNITS	RATINGS
Diode			
I _F	Forward Current (DC)	mA	±150
P _D	Power Dissipation	mW	200
I _F (PEAK)	Peak Forward Current (PW = 100 μs, Duty Cycle 1%)	A	±1
Transistor			
V _{CEO}	Collector to Emitter Voltage	V	80
V _{ECO}	Emitter to Collector Voltage	V	7
I _C	Collector Current	mA	50
P _C	Power Dissipation	mW	150
Coupled			
BV	Isolation Voltage ²	V _{r.m.s.}	5000
T _{STG}	Storage Temperature	°C	-55 to +150
T _{OP}	Operating Temperature	°C	-55 to +100

Notes:

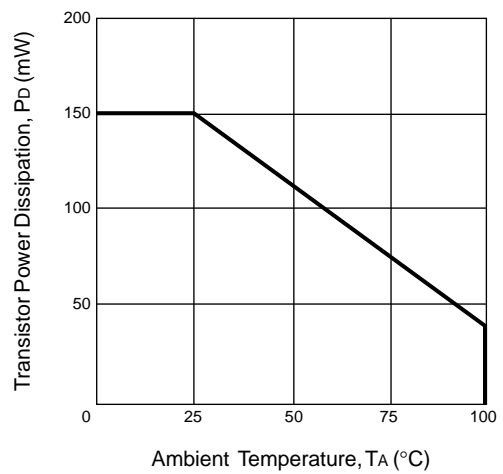
1. Operation in excess of any one of these parameters may result in permanent damage.
2. AC voltage for 1 minute at T_A = 25° C, RH = 60% between input (Pin No. 1, 2, 3 Common) and output (Pin No. 4, 5, 6 Common).

TYPICAL PERFORMANCE CURVES (T_A = 25°C)

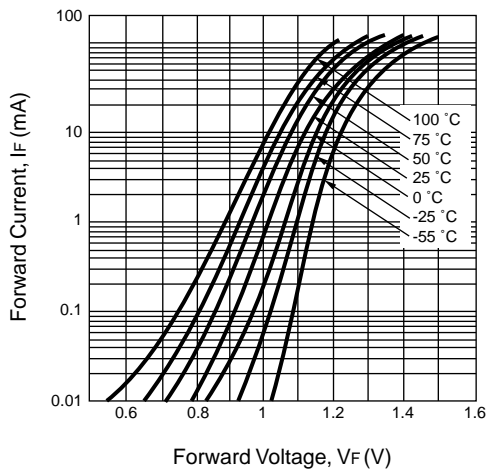
DIODE POWER DISSIPATION vs. AMBIENT TEMPERATURE



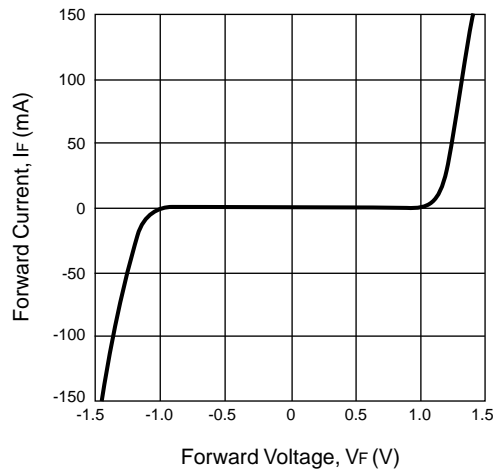
TRANSISTOR POWER DISSIPATION vs. AMBIENT TEMPERATURE



FORWARD CURRENT vs. FORWARD VOLTAGE

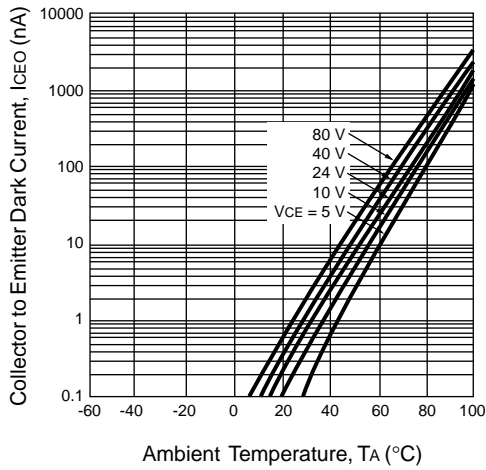


FORWARD CURRENT vs. FORWARD VOLTAGE

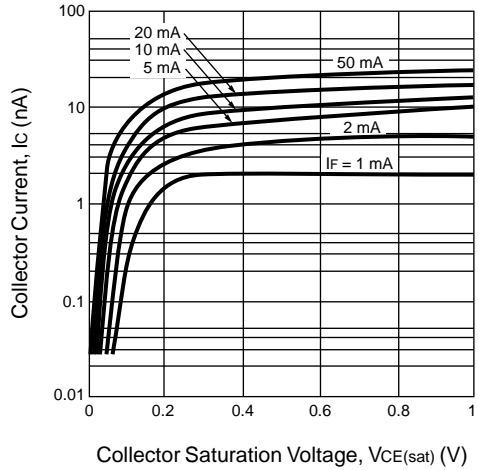


TYPICAL PERFORMANCE CURVES ($T_A = 25^\circ\text{C}$)

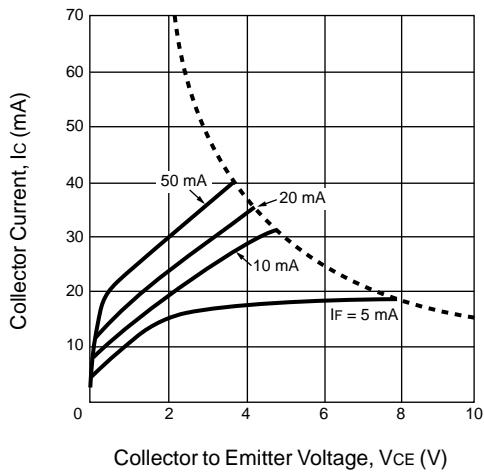
COLLECTOR TO EMITTER DARK CURRENT vs. AMBIENT TEMPERATURE



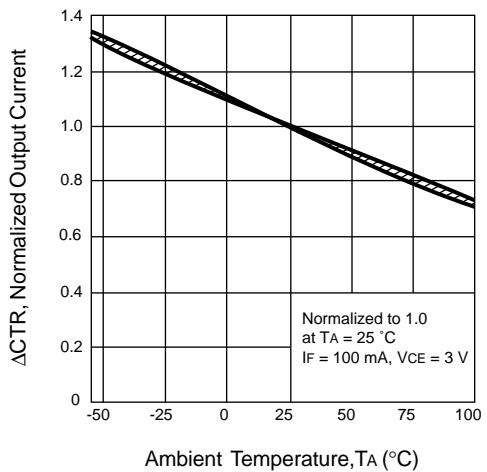
COLLECTOR CURRENT vs. COLLECTOR SATURATION VOLTAGE



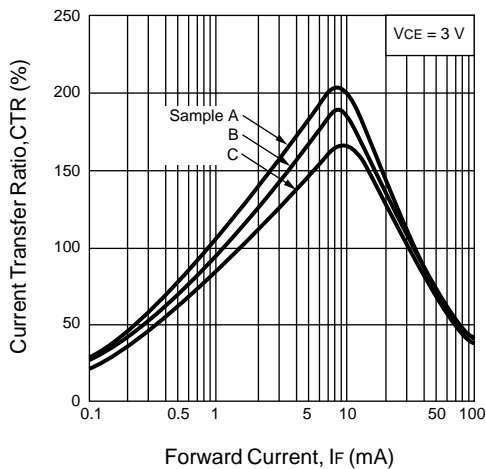
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



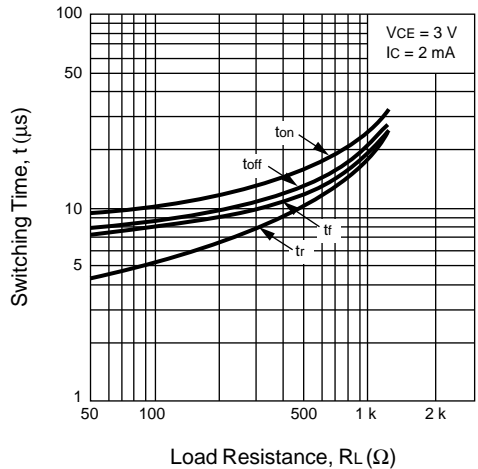
NORMALIZED OUTPUT CURRENT vs. AMBIENT TEMPERATURE



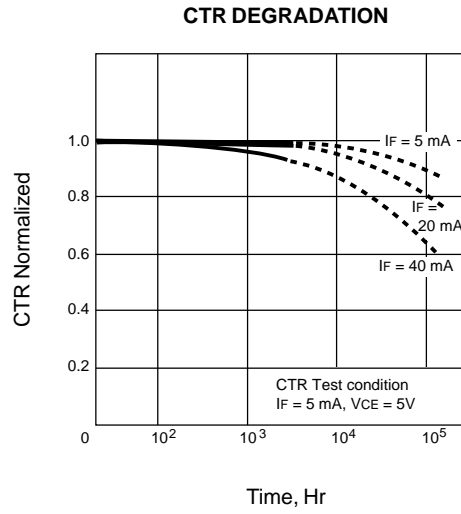
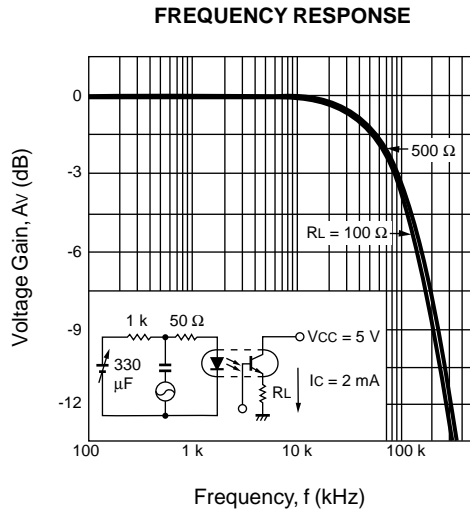
CURRENT TRANSFER RATIO (CTR) vs. FORWARD CURRENT



SWITCHING TIME vs. LOAD RESISTANCE

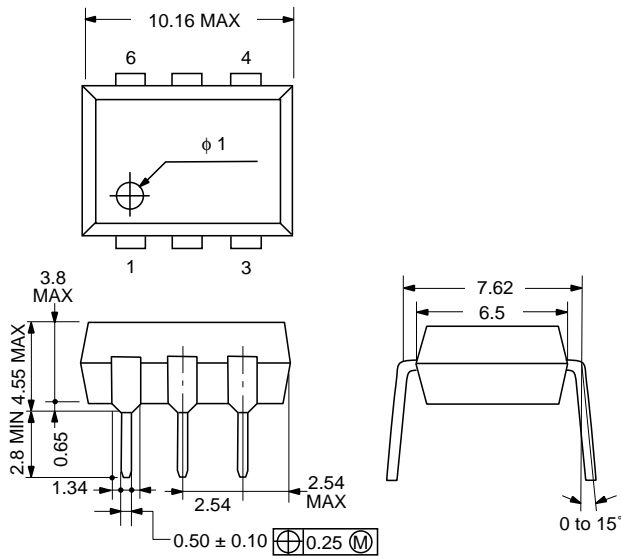


TYPICAL PERFORMANCE CURVES (TA = 25°C)

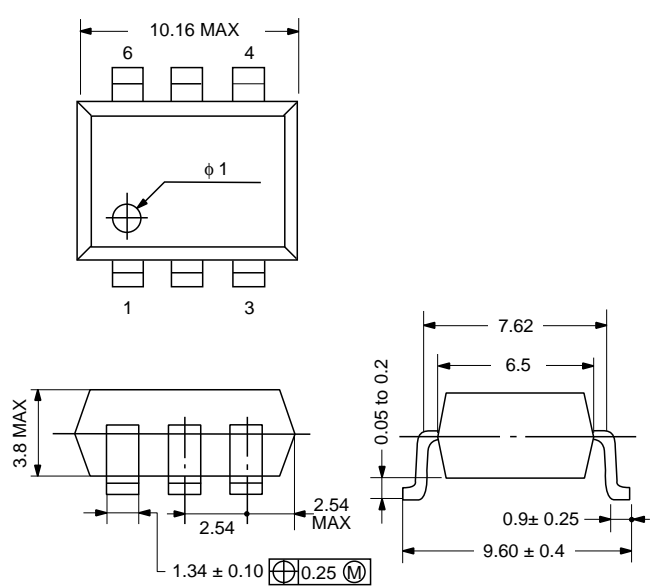


OUTLINE DIMENSIONS (Units in mm)

PS2625, PS2626

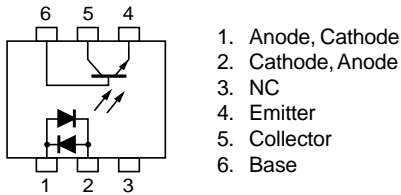


PS2625L, PS2626L

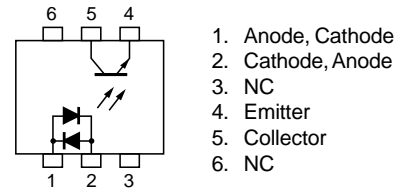


PIN CONNECTIONS (Units in mm)

PS2625, PS2625L



PS2626, PS2626L



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