

PRODUCT SPECIFICATION

COSMO ELECTRONICS CORP.	Photocoupler : KPC355NT	SHEET 1 OF 5
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High Reliability Photocoupler

● Features

1. High current transfer ratio
(CTR : MIN. 600% at $I_F=1\text{mA}$, $V_{ce}=2\text{V}$)
2. High isolation voltage between input and output (Viso:3750Vrms).
3. Mini-flat package.

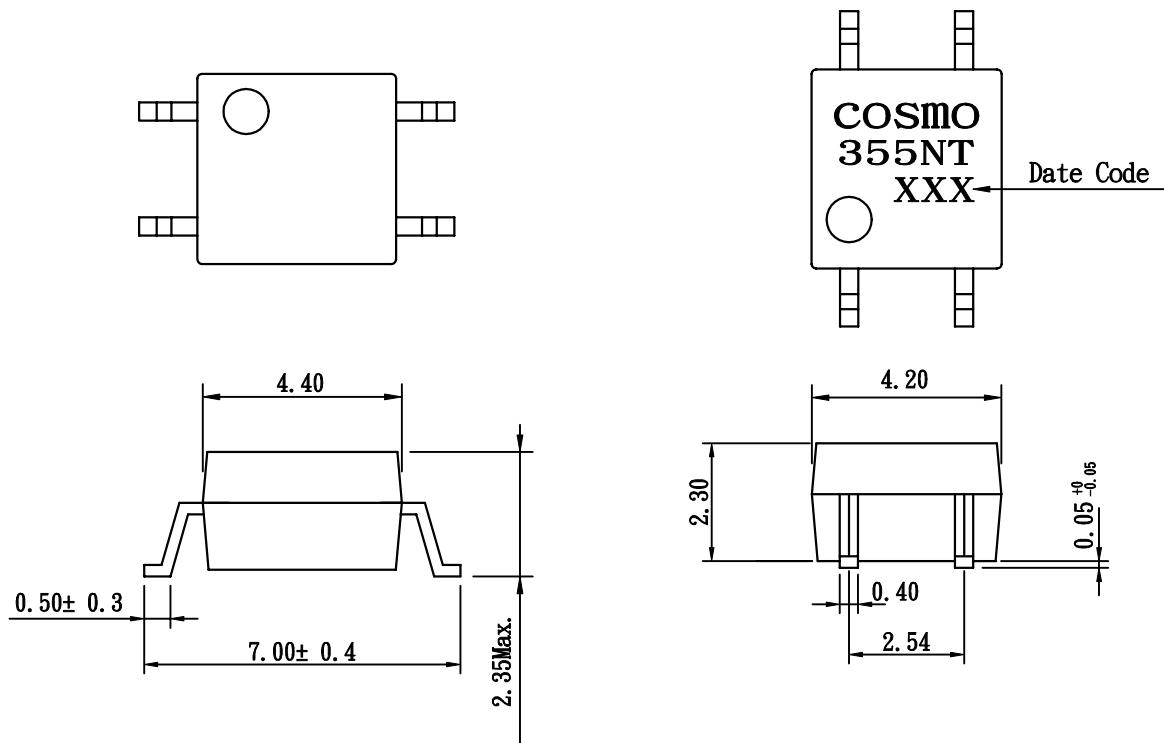
● Applications

1. System appliances, measuring instruments.
2. Industrial robots.
3. Copiers, automatic vending machines.
4. Signal transmission between circuits of different potentials and impedances.
5. Telephone sets.
6. Copiers, facsimiles.
7. Interface with various power supply circuits, power distribution boards.
8. Numerical control machines.

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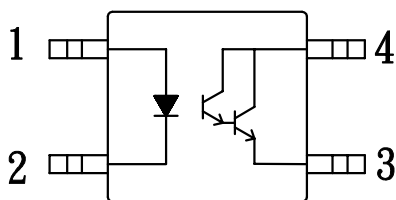
COSMO ELECTRONICS CORP.	Photocoupler : KPC355NT	SHEET 2 OF 5
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1. OUTSIDE DIMENSION : UNIT(mm)



TOLERANCE : ± 0.2mm

2. SCHEMATIC : TOP VIEW



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

PRODUCT SPECIFICATION

COSMO ELECTRONICS CORP.	Photocoupler : KPC355NT	SHEET 3 OF 5
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• Absolute Maximum Ratings

(Ta=25°C)

	Parameter	Symbol	Rating	Unit
Input	Forward current	IF	50	mA
	Peak forward current	IFM	1	A
	Reverse voltage	VR	6	V
	Power dissipation	PD	70	mW
Output	Collector-emitter voltage	VCEO	30	V
	Emitter-collector voltage	VECO	5	V
	Collector current	IC	150	mA
	Collector power dissipation	PC	150	mW
	Total power dissipation	Ptot	170	mW
	Isolation voltage 1 minute	Viso	3750	Vrms
	Operating temperature	Topr	-30 to +100	°C
	Storage temperature	Tstg	-40 to +125	°C
	Soldering temperature 10 seconds	Tsol	260	°C

• Electro-optical Characteristics

(Ta=25°C)

	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	VF	IF=20mA	-	1.2	1.4	V
	Peak forward voltage	VFM	IFM=0.5A	-	-	3.5	V
	Reverse current	IR	VR=4V	-	-	10	uA
	Terminal capacitance	Ct	V=0, f=1kHz	-	30	-	pF
Output	Collector dark current	ICEO	VCE=10V, IF=0	-	-	1.0	uA
	Current transfer ratio	CTR	IF=1mA, VCE=2V	600	1600	7500	%
Transfer characteristics	Collector-emitter saturation voltage	VCE(sat)	IF=20mA, IC=1mA	-	-	1.0	V
	Isolation resistance	Riso	DC500V	5x10 ¹⁰	-	-	ohm
	Floating capacitance	Cf	V=0, f=1MHz	-	0.6	1.0	pF
	Cut-off frequency	fc	VCC=5V, IC=2mA, RL=100ohm	-	7	-	kHz
	Response time (Rise)	tr	VCC=2V, IC=2mA, RL=100ohm	-	60	300	us
	Response time (Fall)	tf		-	53	250	us

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SHEET 4 OF 5

Fig.1 Forward Current vs. Ambient Temperature

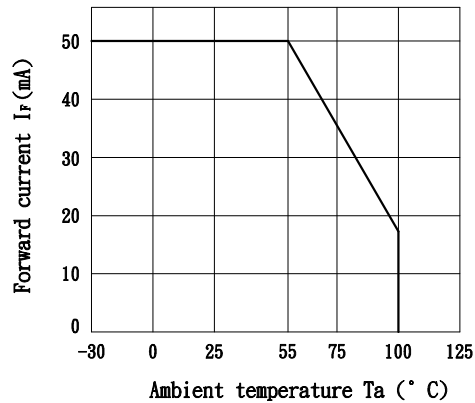


Fig.2 Collector Power Dissipation vs. Ambient Temperature

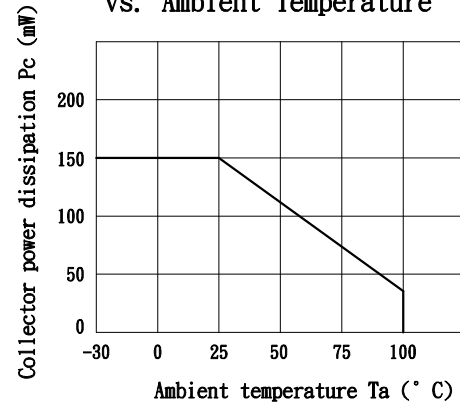


Fig.3 Peak Forward Current vs. Duty Ratio

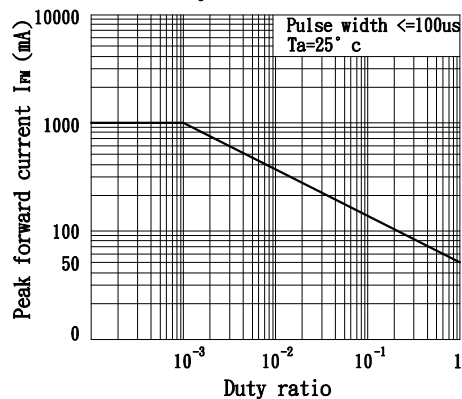


Fig.4 Forward Current vs. Forward Voltage

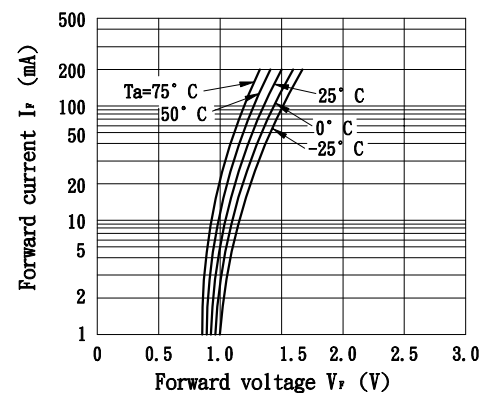


Fig.5 Current Transfer Ratio vs. Forward Current

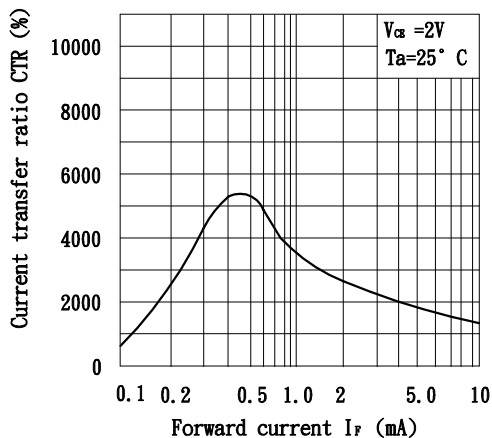
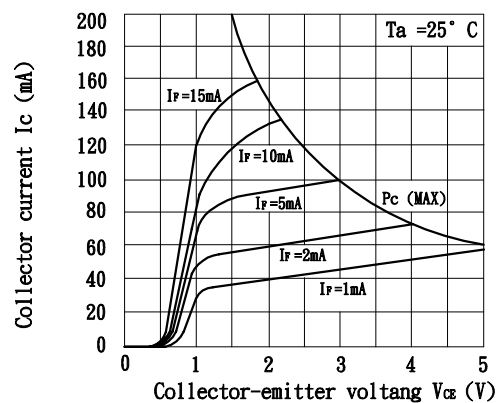


Fig.6 Collector Current vs. Collector-emitter Voltage



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SHEET 5 OF 5

Fig. 7 Relative Current Transfer Ratio vs. Ambient Temperature

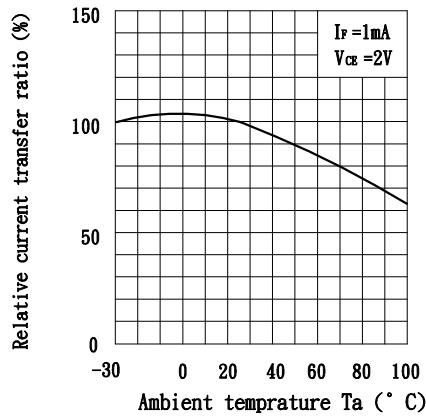


Fig. 8 Collector-emitter Saturation Voltage vs. Ambient Temperature

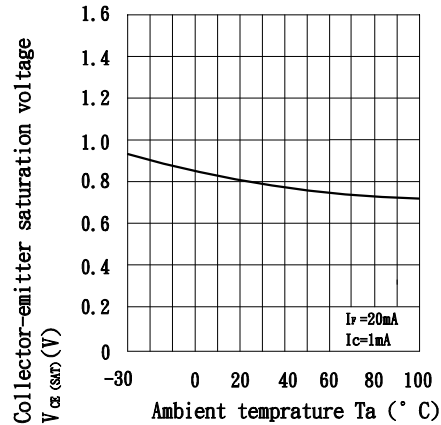


Fig. 9 Collector Dark Current vs. Ambient Temperature

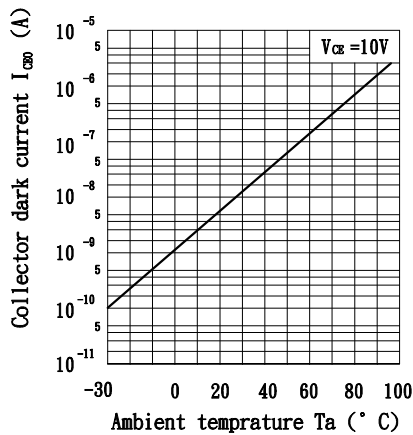


Fig. 10 Response Time vs. Load Resistance

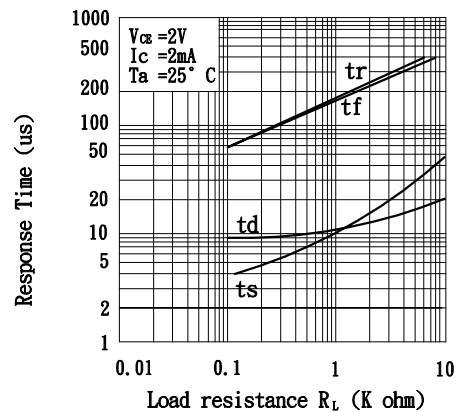


Fig. 11 Collector-emitter Saturation Voltage vs. Forward current

