PRODUCT SPECIFICATION

COSMO ELECTRONICS CO.,LTD.	Photocoupler : KPC355NT	SHEET 1 OF 5

High Reliability Photocoupler

● Features

1. High current transfer ratio

   (CTR : MIN.600% at I_F=1mA, Vce=2V)

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.

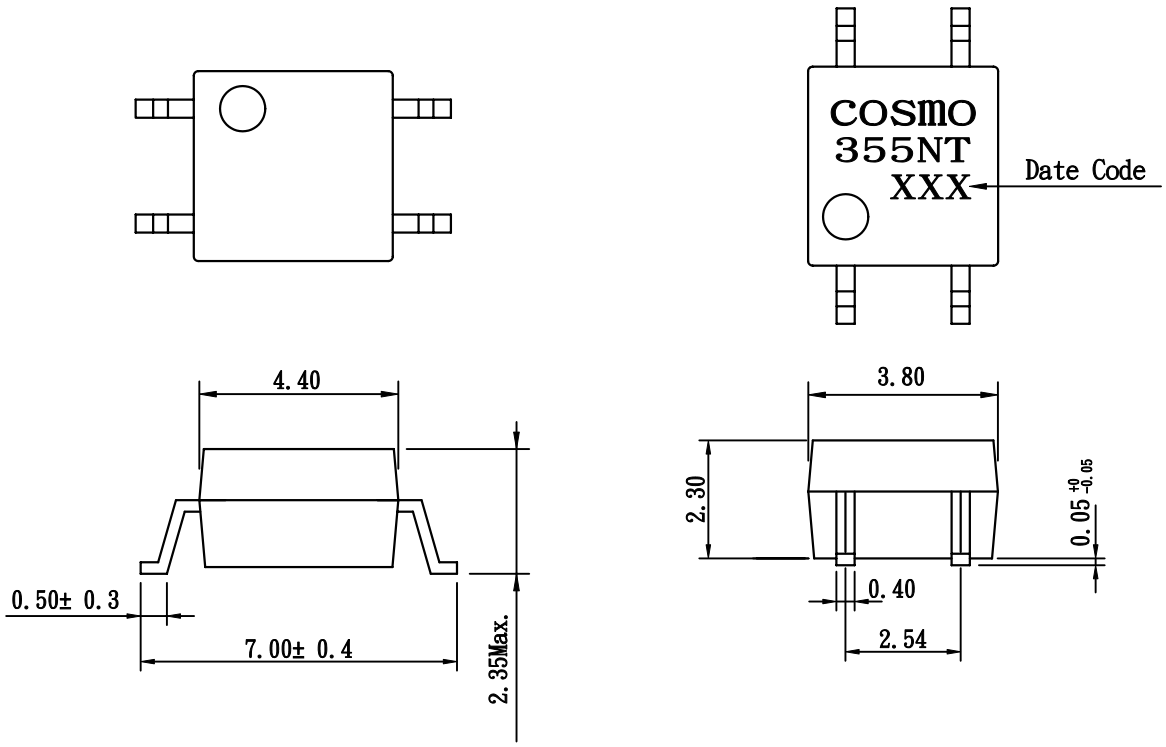
7. Interface with various power supply circuits, power distribution boards.

8. Numerical control machines.

PRODUCT SPECIFICATION

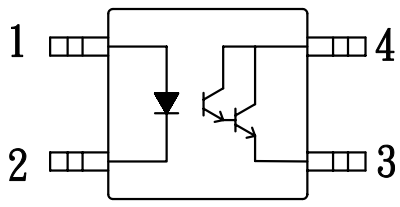
COSMO ELECTRONICS CO.,LTD.	Photocoupler : KPC355NT	SHEET 2 OF 5

1. OUTSIDE DIMENSION : UNIT(mm)



TOLERANCE : ± 0.2mm

2. SCHEMATIC : TOP VIEW



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

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COSMO ELECTRONICS CO.,LTD.	Photocoupler : KPC355NT	SHEET 3 OF 5

• Absolute Maximum Ratings

(Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Peak forward current	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P_D	70	mW
Output	Collector-emitter voltage	V_{CEO}	30	V
	Emitter-collector voltage	V_{ECO}	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	V_F	I_F=20mA	-	1.2	1.4	V
	Peak forward voltage	V_{FM}	I_{FM}=0.5A	-	-	3.5	V
	Reverse current	I_R	V_R=4V	-	-	10	uA
	Terminal capacitance	Ct	V=0, f=1kHz	-	30	-	pF
Output	Collector dark current	I_{CEO}	V_{CE}=10V, I_F=0	-	-	1.0	uA
Transfer characteristics	Current transfer ratio	CTR	I_F=1mA, V_{CE}=2V	600	1600	7500	%
	Collector-emitter saturation voltage	V_{CE}(sat)	I_F=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	V_{CC}=5V, Ic=2mA, R_L=100ohm	-	7	-	kHz
	Response time (Rise)	tr	V_{CC}=2V, Ic=2mA, R_L=100ohm	-	60	300	us
	Response time (Fall)	tf		-	53	250	us

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COSMO ELECTRONICS CO.,LTD.	Photocoupler : KPC355NT	SHEET 4 OF 5

Fig.1 Forward Current vs. Ambient Temperature

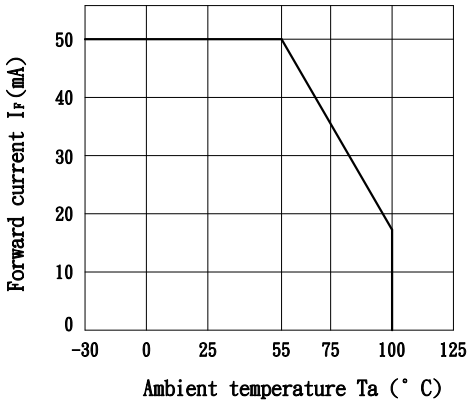


Fig.2 Collector Power Dissipation vs. Ambient Temperature

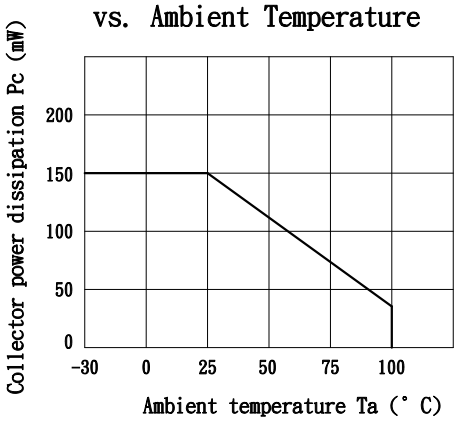


Fig.3 Peak Forward Current vs. Duty Ratio

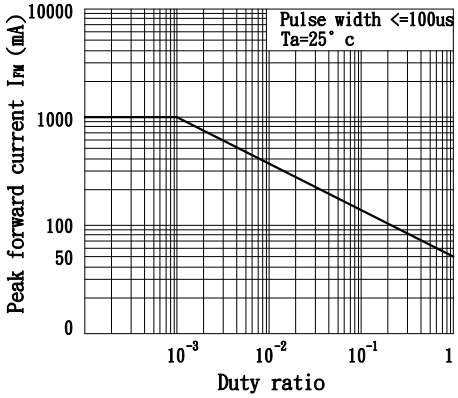


Fig.4 Forward Current vs. Forward Voltage

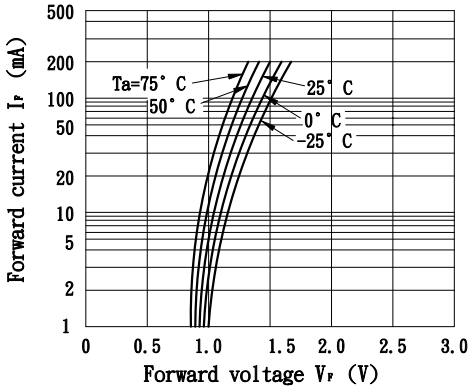


Fig.5 Current Transfer Ratio vs. Forward Current

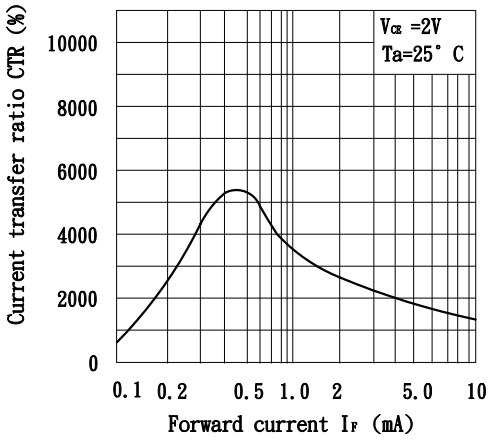
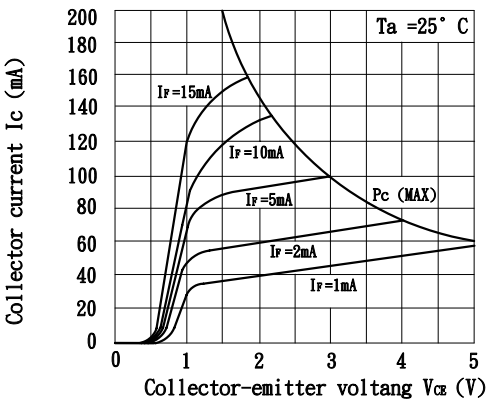


Fig.6 Collector Current vs. Collector-emitter Voltage



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COSMO ELECTRONICS CO.,LTD.	Photocoupler : KPC355NT	SHEET 5 OF 5

Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

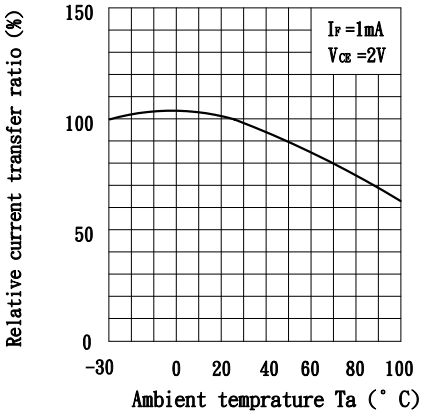

Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

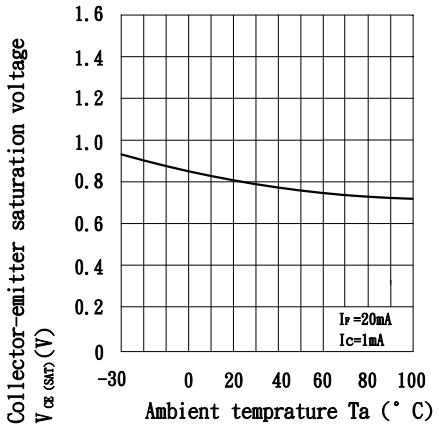

Fig.9 Collector Dark Current vs. Ambient Temperature

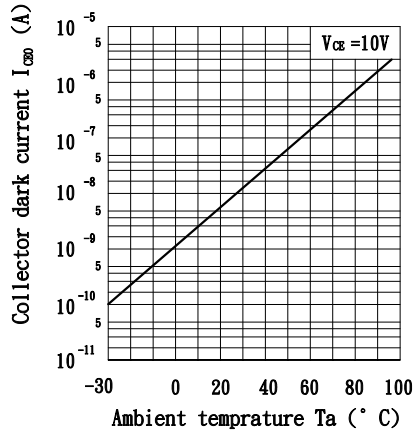

Fig.10 Response Time vs.Load Resistance

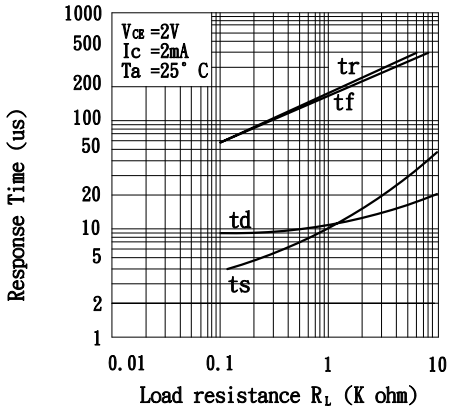

Fig.11 Collector-emitter Saturation Voltage vs. Forward current