USR/CNR Listed (File # 223387)
VDE (File # 40009584)

Features

1. Current transfer ratio.
   (CTR: MIN. 60% at I_F = ±1mA V_{CE} = 5V)
2. High isolation voltage between input and output.
   (Viso: 5000V_{RMS})
3. Compact dual-in-line package.
4. AC input.
5. Available package types: DIP(shown)/ SMD/ H (Page: 148).

Part Numbering System: Page 2. **Part Marking System:** Page 3.

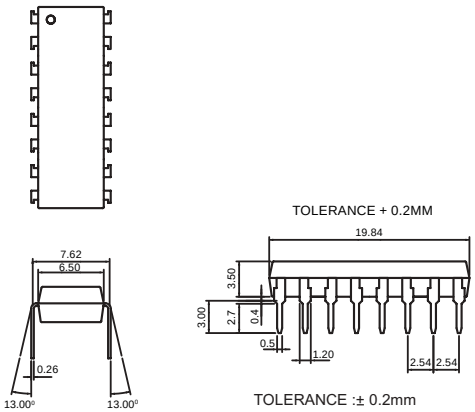
Applications

1. Programmable controller applications for low input photo couplers and high V_{CEO} photo couplers.
2. Telephone sets, telephone exchangers.
3. System appliances, limit switches, sensors, thermostats transducers etc.
4. Signal transmission between circuits of different potentials and impedances.

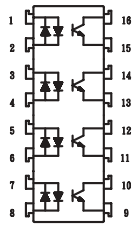
Classification table of current transfer ratio is shown below.

RANK MARK	CTR(%)
A	60 TO 600

Outside Dimension: Unit (mm)



Schematic: Top View



1, 2. Anode, Cathode
3, 4. Anode, Cathode
5, 6. Anode, Cathode
7, 8. Anode, Cathode
9, 11, 13, 15. Emitter
10, 12, 14, 16. Collector

Absolute Maximum Ratings

(Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	± 50	mA
	Peak forward current	I_{FM}	± 1	A
	Power dissipation	P_D	70	mW
Output	Collector-emitter voltage	V_{CEO}	60	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	50	mA
	Collector power dissipation	P_C	150	mW
Total power dissipation		Ptot	200	mW
Isolation voltage 1 minute		Viso	5000	Vrms
Operating temperature		Topr	-30 to +100	°C
Storage temperature		Tstg	-55 to +125	°C
Soldering temperature 10 second		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
	Terminal capacitance	Ct	V=0, f=1kHz	—	30	—	pF
Output	Collector dark current	I_{CEO}	V_{CE} =20V, I_F=0	—	—	0.1	uA
Transfer charac-teristics	Current transfer ratio	CTR	I_F =±1mA,V_{CE} =5V	60	—	600	%
	Collector-emitter saturation voltage	V_{CE} (sat)	I_F =±20mA, I_C=1mA	—	0.1	0.3	V
	Isolation resistance	Riso	DC500V	$5X10^{10}$	10^{11}	—	ohm
	Floating capacitance	Cf	V=0, f=1MHz	—	0.6	1.0	pF
	Cut-off frequency	fc	V_{CC}=5V, I_C=2mA, R_L=100ohm	—	80	—	kHz
	Response time (Rise)	tr	V_{CE}=2V, I_C=2mA, R_L=100ohm	—	5	20	us
	Response time (Fall)	tf		—	4	20	us

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Fig.1 Current Transfer Ratio vs. Forward Current

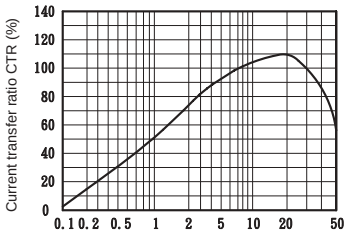

Fig.2 Collector Power Dissipation vs. Ambient Temperature

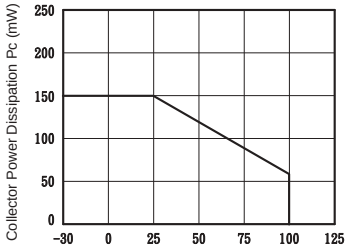

Fig.3 Collector Dark Current vs. Ambient Temperature

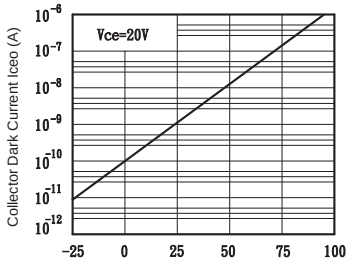

Fig.4 Forward Current vs. Ambient Temperature

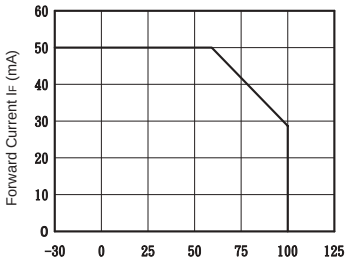

Fig.5 Forward Current vs. Forward Voltage

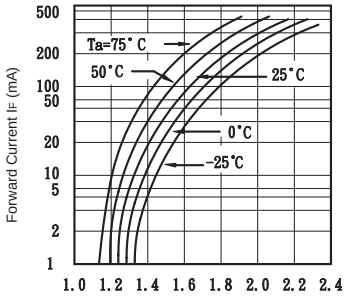

Fig.6 Collector Current vs. Collector-emitter Voltage

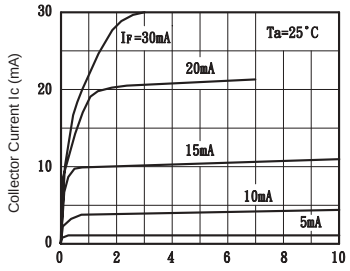

Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

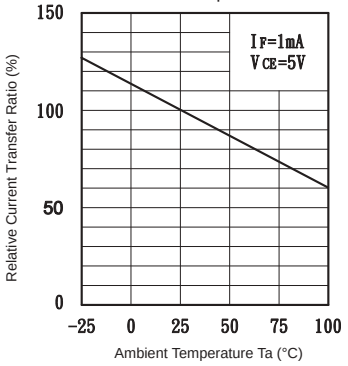

Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

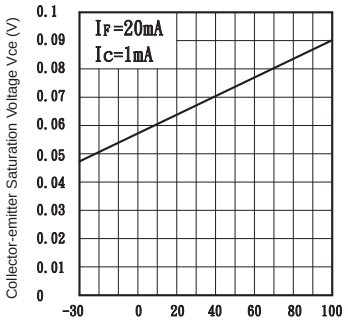

Fig.9 Collector-emitter Saturation Voltage vs. Forward Current

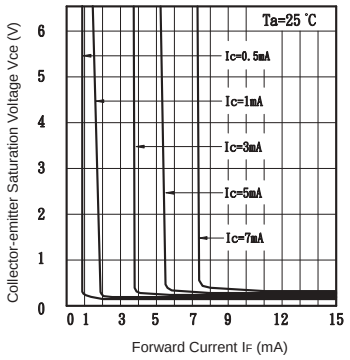

Fig.10 Response Time vs. Load Resistance

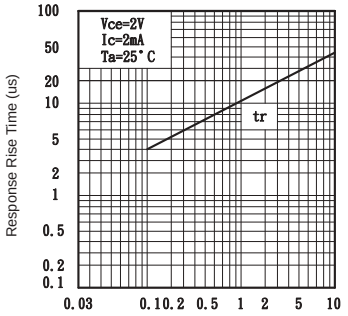

Fig.11 Response Time vs. Load Resistance