

## JC817



### Product Detail

#### • Features:

1. Current transfer ratio (CTR: MIN. 50% at IF=5mA, VCE=5V)
2. High input-output isolation voltage (VISO=5,000Vrms)
3. Response time (tr: TYP. 4μs at VCE=2V, IC=2mA, RL=100 Ω)
4. Package type:

JC817 :dual-in-line package

JC817M:wide lead spacing package

JC817S:surface mounting package JC817S1:the other surface mounting package

5. CQC approved
6. UL approved
7. CSA approved

#### • Description

1. The JC817 series are optically coupled isolators containing a GaAs light emitting diode and an NPN silicon phototransistor
2. The lead pitch is 2.54mm

#### • Applications:

1. Computer terminals.
2. System appliances, measuring instruments.
3. Registers, copiers, automatic vending machines.
4. Electric home appliances, such as fan heaters, etc.
5. Signal transmission between circuits of different potentials and impedances.

#### • Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Rating	Unit
INPUT	Forward Current	IF	50	mA

OUTPUT	Reverse Voltage	VR	6	V
	Power Dissipation	P	70	mW
	Collector-Emitter Voltage	VCEO	70	V
	Emitter- Collector Voltage	VECO	6	
	Collector Current	IC	50	mA
	Collector Power Dissipation	PC	150	mW
	Total Power Dissipation	Ptot	200	mW
*1 Isolation Voltage		Viso	5,000	Vrms
Operating Temperature		Topr	-30 to + 100	°C
Storage Temperature		Tstg	-55 to + 125	
*2 Soldering Temperature		Tsol	260	

\*1. AC for 1 minute, R.H. =40~60%

Isolation voltage shall be measured using the following method.

(1) Short between anode and cathode on the primary side and between collector and emitter on the secondary side.

(2) The waveform of applied voltage shall be a sine wave.

\*2. For 10 Seconds

### •Electro-Optical Characteristics (Ta=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX	Unit
INPUT	Forward Voltage	VF	IF=20mA	---	1.2	1.4	V
	Reverse Current	IR	VR=4V	---	---	10	μA
	Terminal Capacitance	Ct	V=0, f=1KHz	---	30	250	pF
OUTPUT	Collector Dark Current	ICEO	VCE=20V, IF=0	---	---	100	nA
	Collector-Emitter Breakdown Voltage	BVCEO	IC=0.1mA IF=0	70	100	---	V
	Emitter-Collector Breakdown Voltage	BVECO	IE=10μA IF=0	6	9	---	V
	Collector Current 2	Ic	IF=5mA	2.5	---	30	mA

*2 Current Transfer Ratio 2	CTR	VCE=5V	50	---	600	%
Collector-Emitter Saturation Voltage	VCE(sat)	IF=20mA IC= 1mA	---	0.1	0.2	V
Isolation Resistance	Riso	DC500V 40~60%R.H.	5×1010	1×1011	---	Ω
Floating Capacitance	Cf	V=0, f=1MHz	---	0.6	1	pF
Cut-Off Frequency	fc	VCE=5V, IC=2mA RL=100Ω, -3dB	---	80	---	kHz
Response Time(Rise)	tr	VCE=2V, IC=2mA RL=100Ω	---	4	18	μs
Response Time(Fall)	tf		---	3	18	μs

\*1: CTR= IC / IF × 100%

### •Rank Table Of Current Transfer Ratio(CTR)

RANK M ARK	Min. (%)	Max. (%)
L	50	100
A	80	160
B	130	260
C	200	400
D	300	600
L or A or B or C or D	50	600

Notes: 1. Conditions: IF=5mA, VCE=5V, Ta=25°C.