

# Photocoupler

## Part Name: LA313

### Description

LA313 photocoupler is an optically coupled pair employing GaAs infrared LED and a NPN silicon photodarlington.

### Features

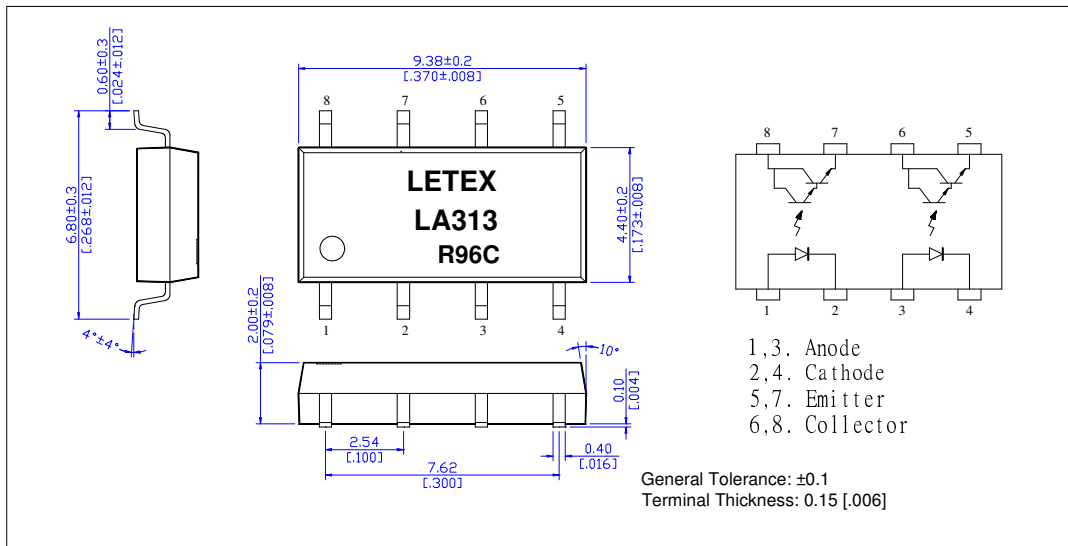
- High current transfer ratio  
(CTR: Min. 600% at IF=1mA)
- SOP package 8 Pin type in miniature design
- 1500V rms Input/Output isolation

### Applications

- System appliances, measuring instruments
- Telecommunication
- PLCs
- Signal transmission between circuits of different potentials
- Registers, copiers, automatic vending

### Outline Dimensions

(Unit: mm [inch])



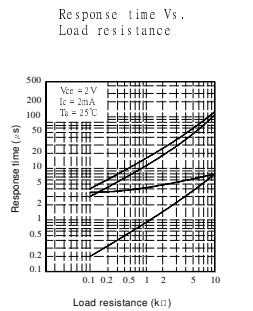
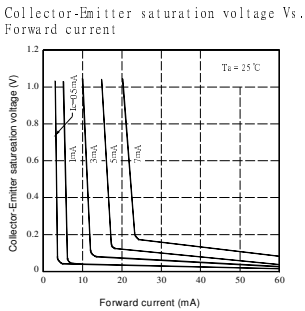
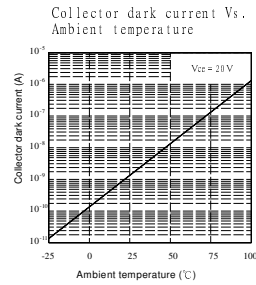
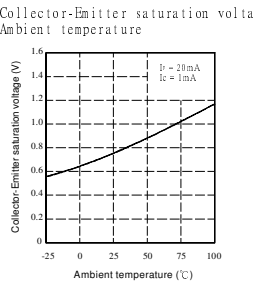
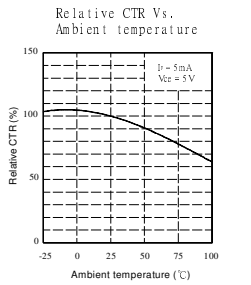
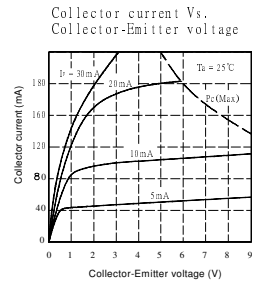
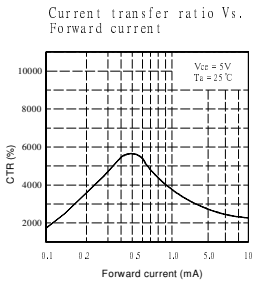
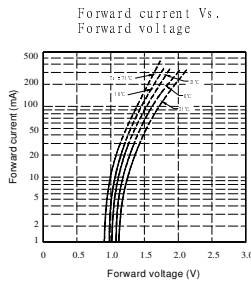
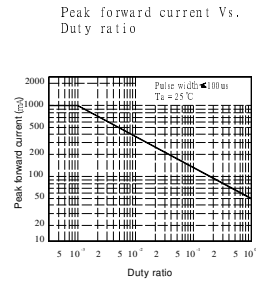
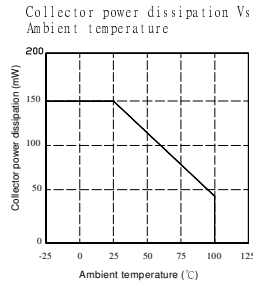
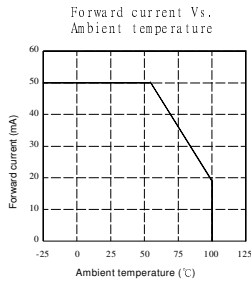
**Part Name: LA313****Absolute Maximum Ratings (Ambient Temperature: 25°C)**

Item		Symbol	Rating	Units	Note
Input	Forward Current	IF	50	mA	
	Reverse Voltage	VR	5	V	
	Peak Forward Current	IFP	1	A	
Output	Collector to Emitter Voltage	Vceo	35	V	Ic=1mA, IB=0
	Emitter to Collector Voltage	Veco	6	V	IE=100μA, IB=0
	Collector Current	Ic	80	mA	
	Power Dissipation	Pc	150	mW	
I/O Breakdown Voltage		VI/O	1500	Vrms	RH=60%, 1min
Power Dissipation		PD	200	mW	
Storage Temperature		Tstg	-55 to +125	°C	
Operating Temperature		Top	-55 to +100	°C	
Soldering Temperature		Tsol	260	°C	10 seconds max.

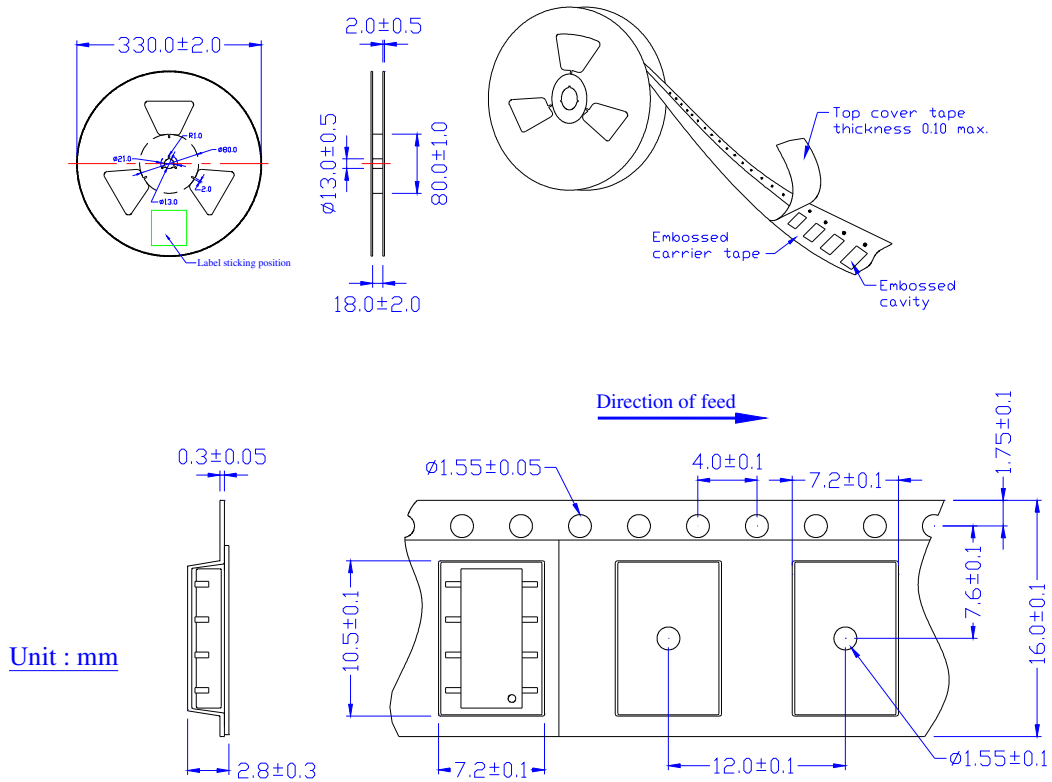
**Electrical Specifications (Ambient Temperature: 25°C)**

Item		Symbol	MIN.	TYP.	MAX.	Units	Conditions
Input	Forward Voltage	VF		1.2	1.4	V	IF= 20mA
	Reverse Current	IR			10	μA	VR=5V
	Junction Capacitance	Ct		30		pF	V=0, f=1.0KHz
Output	C-E Breakdown Voltage	Vceo	35			V	Ic=0.5mA
	E-C Breakdown Voltage	Veco	6			V	Ie=0.1mA
	Collector Dark Current	Iceo			100	nA	Vce=20V, IF=0
Coupled	Current Transfer Ratio	CTR	600	1600	7000	%	IF= 1mA, Vce=5V
	Collector Saturation Voltage	Vce(sat)			1	V	IF=20mA, Ic=1mA
	Isolation Resistance	R <sub>I/O</sub>			10 <sup>9</sup>	Ω	V=500V DC
	Isolation Capacitance	C <sub>I/O</sub>		1.0		pF	V=0, f=1.0MHz
	Rise Time	tr			300	μs	Vce=5V, Ic=2mA,
	Fall Time	tf			250	μs	RL=100Ω

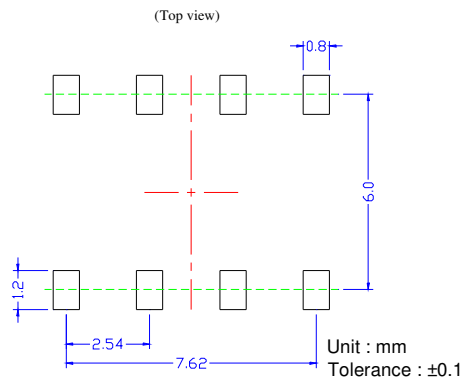
## Reference Data



## Taping Specifications for Surface Mount Devices

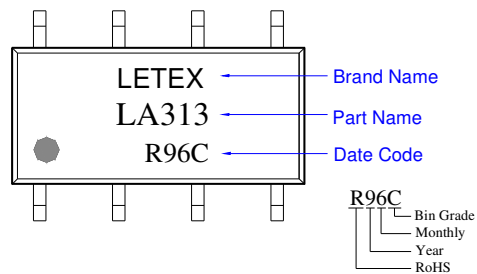


### Recommended Mounting Pad



### Marking

(Each photo MOS Relay shall be marked with the following information)



- Note:**
1. There shall be leader of 230 mm minimum which may consist of carrier and or cover tape follower by a minimum of 160 mm of carrier tape sealed with cover tape.
  2. There shall be a minimum of 160 mm of empty component pockets sealed with cover tape.
  3. Devices are pockets in accordance with EIA standard EIA-481-A and specifications given above.
  4. Packaging: 1,000pcs per reel, 2 reel per box, 5 boxes per carton.