



### Features

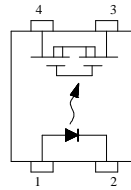
- SOP package 4 Pin type in miniature design (4.4×4.3×2.1mm / .173×.169×.083inch)
- Low driver power requirements (TTL/CMOS Compatible)
- No moving parts
- High reliability
- Arc-Free with no snubbing circuits
- 1500Vrms Input/Output isolation
- Tape & Reel version available

### Applications

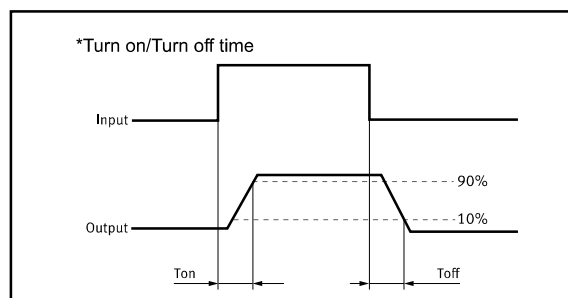
- Telecommunications (PC, Electronic notepad)
- Measuring and Testing equipment
- Industrial control
- Security equipments
- High speed inspection machine



SOP4



1. LED Anode
2. LED Cathode
- 3, 4. Drain (MOS FET)



### TYPES

Category	Output rating <sup>*1</sup>		Part No.	Packing quantity
	Load voltage	Load current		
AC/DC	100V	400mA	SOP4 GAQY215S	Tape and reel 2000/1REEL

#### Absolute Maximum Ratings (Ambient Temperature: 25°C)

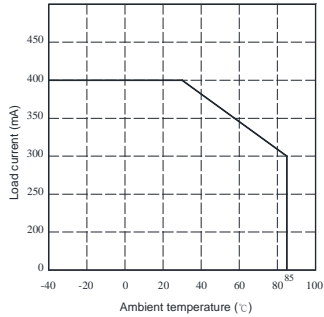
Item		Symbol	Value	Units	Note
Input	Continuous LED Current	$I_F$	50	mA	
	Peak LED Current	$I_{FP}$	1000	mA	f=100Hz, duty=1%
	LED Reverse Voltage	$V_R$	5	V	
	Input Power Dissipation	$P_{In}$	75	mW	
Output	Load Voltage	$V_L$	100	V(AC peak or DC)	
	Load Current	$I_L$	400	mA	
	Peak Load Current	$I_{Peak}$	1.0	A	100ms(1 pulse)
	Output Power Dissipation	$P_{out}$	450	mW	
Total Power Dissipation		$P_T$	500	mW	
I/O Breakdown Voltage		$V_{I/O}$	1500	V <sub>rms</sub>	RH=60%, 1min
Operating Temperature		$T_{opr}$	-40 to +85	°C	
Storage Temperature		$T_{stg}$	-40 to +100	°C	
Pin Soldering Temperature		$T_{sol}$	260	°C	10 sec max.

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

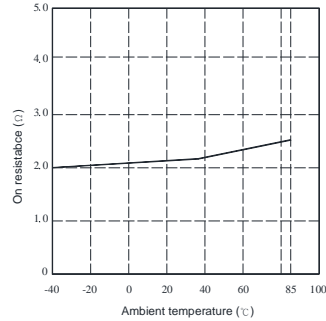
Item		Symbol	MIN.	TYP.	MAX.	Units	Conditions
Input	LED Forward Voltage	$V_F$		1.2	1.4	V	$I_F=10mA$
	Operation LED Current	$I_{F on}$		0.5	2.0	mA	
	Recovery LED Current	$I_{F off}$		0.35	0.5	mA	
	Recovery LED Voltage	$V_{F off}$	0.7			V	
Output	On-Resistance	$R_{on}$		2.0	2.5	$\Omega$	$I_F=5mA, I_L=100mA$ , Time to flow is within 1 sec.
	Off-State Leakage Current	$I_{Leak}$			1.0	$\mu A$	$V_L=Rating$
	Output Capacitance	$C_{out}$		22		pF	$V_L=0, f=1MHz$
Transmission	Turn-On Time	$T_{on}$		0.3	0.6	ms	$I_F=5mA, I_L=100mA$ ,
	Turn-Off Time	$T_{off}$		0.05	0.1	ms	
Coupled	I/O Isolation Resistance	$R_{I/O}$	$10^{10}$			$\Omega$	DC500V
	I/O Capacitance	$C_{I/O}$		0.8	1.5	pF	f=1MHz

### Reference Data

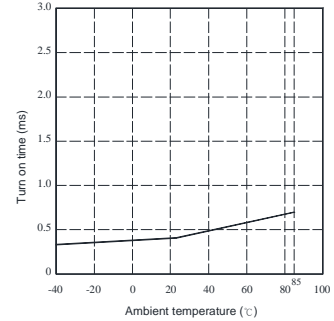
Load current Vs. Ambient temperature



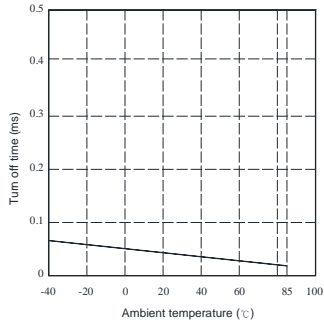
On resistance Vs. Ambient temperature



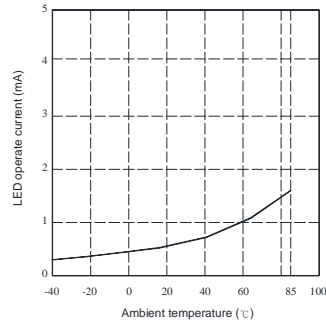
Turn on time Vs. Ambient temperature



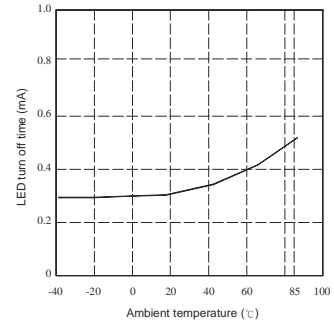
Turn off time Vs. Ambient temperature



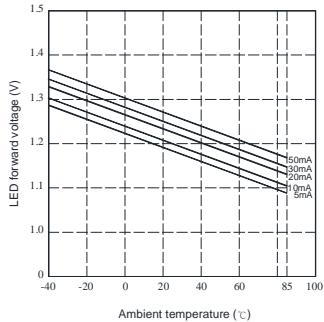
LED operate current Vs. Ambient temperature



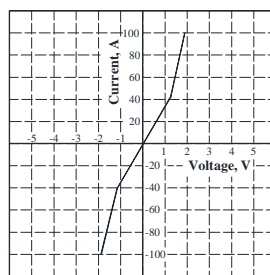
LED turn off current Vs. Ambient temperature



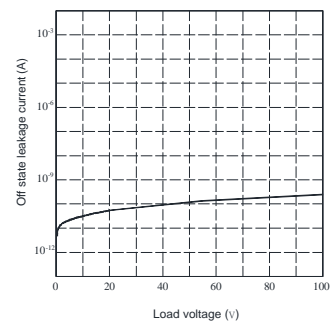
LED forward voltage Vs. Ambient temperature



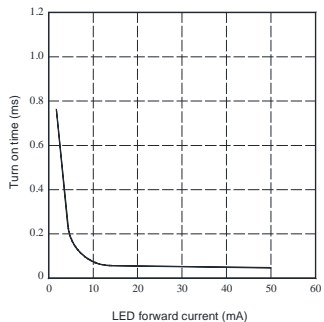
Voltage Vs. current characteristics of output at MOS portion



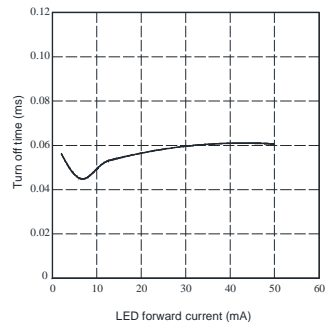
Off state leakage current Vs. Load voltage characteristics



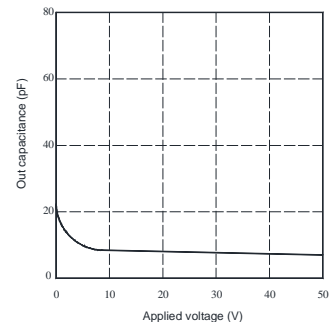
LED forward current Vs. turn on time characteristics



LED forward current Vs. turn off time characteristics

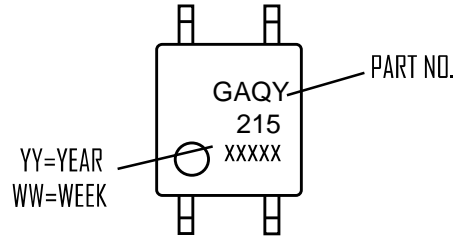


Applied voltage Vs. output capacitance characteristics

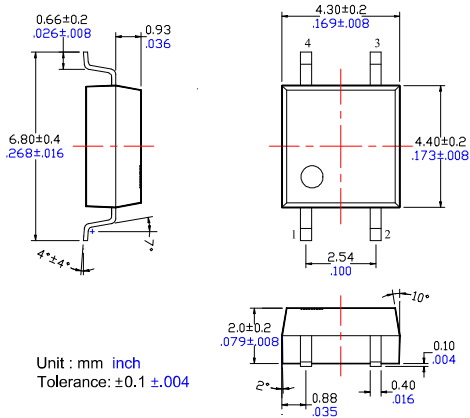


## Dimensions

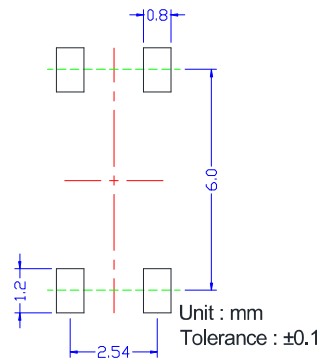
### 4-SOP



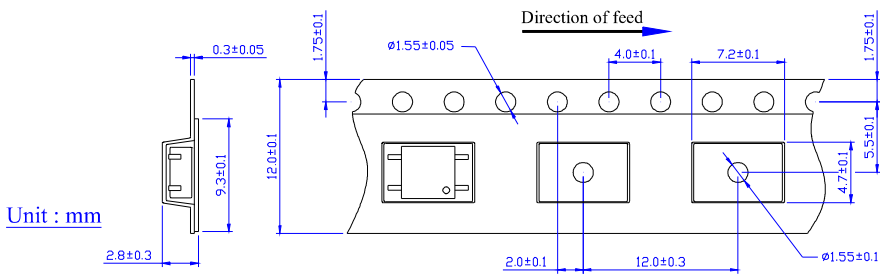
Surface mount terminal type



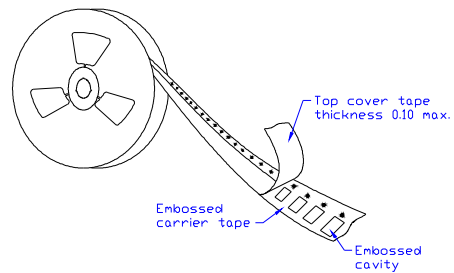
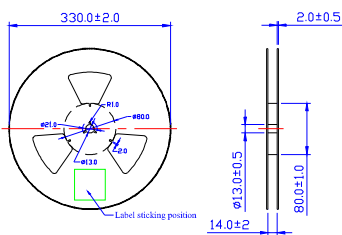
Recommended mounting pad (Top view)



Tape dimensions



Dimensions of tape reel



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