

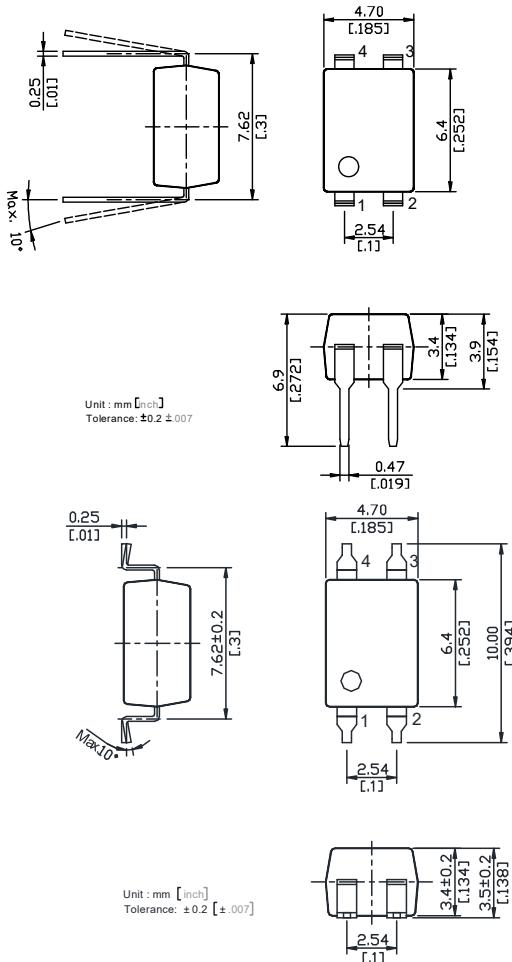
Dual Inline Package 4pin type  
of 200V load voltage

# PHOTO DMOS RELAY AY20 (H)(A)

1 From A



E504629

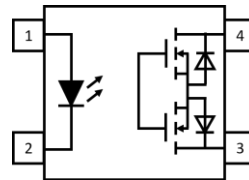


## FEATURE

1. Continuous load current: Max. 200mA.
2. Load on resistance: Typ. 5.0Ω.
3. Loading voltage 200V DC or AC peak.
4. Off-state leakage current: 1μA.

## TYPICAL APPLICATIONS

- Measurement and test equipment
- Telecommunications
- Security equipment
- Industrial machinery and equipment



1. LED Anode
2. LED Cathode
3. MOSFET Drain
4. MOSFET Drain

### Absolute maximum ratings (Ambient temperature 25 °C)

Item		Symbol	Value	Units	Not
Input	Continuous LED current	$I_F$	50	mA	
	Peak LED current	$I_{FP}$	1000	mA	f=100Hz, DC 1%
	LED reverse voltage	$V_R$	5	V	
	Input power dissipation	$P_{in}$	75	mW	
Output	Load voltage	$V_L$	200	V	DC or AC peak
	Load current	$I_L$	200	mA	
	Peak load current	$I_{peak}$	600	mA	100ms(1 pulse)
	Output power dissipation	$P_{out}$	350	mW	
Total power dissipation		$P_T$	450	mW	
I/O isolation voltage		$V_{iso}$	3750	Vrms	RH 60, 1min
I/O isolation voltage(H)			5000	Vrms	RH 60, 1min
Operating temperature		$T_{opr}$	-40o +85	°C	
Storage temperature		$T_{stg}$	-40 to +100	°C	
Soldering temperature		$T_{sol}$	260	°C	10sec max.



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Electrical specifications (Ambient temperature 25 °C)							
Item		Symbol	Min.	Typ.	Max.	Units	Condition
Input	LED forward voltage	$V_F$		1.2	1.5	V	$I_F=10\text{mA}$
	Operating LED current	$I_{Fon}$		0.5	5.0	mA	
	Recover LED current	$I_{Foff}$	0.1	0.35		mA	
	Recover LED voltage	$V_{Foff}$	0.5			V	
Output	On resistance	$R_{on}$		5.0	8.0	$\Omega$	$I_F=10\text{mA}, I_L=100\text{mA}$
	Off-state leakage current	$I_{leak}$			1.0	$\mu\text{A}$	$V_L=\text{Rating}$
	Output capacitance	$C_{out}$		115		pF	$V_L=0\text{V}, f=1\text{MHz}$
Transmission	Turn on time	$T_{on}$		0.4	0.8	ms	$I_F=10\text{mA}, I_L=100\text{mA}$
	Turn off time	$T_{off}$		0.05	0.2	ms	
Coupled	I/O isolation resistance	$R_{I/O}$	$10^9$			$\Omega$	DC 500V
	I/O capacitance	$C_{I/O}$		0.8	1.5	pF	$f=1\text{MHz}$



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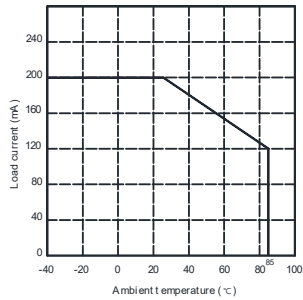
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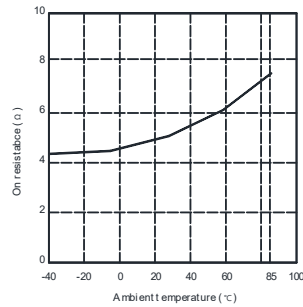
## 1 Form A Photo Relay

### Reference data

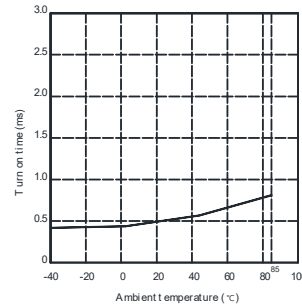
Load current vs. Ambient temperature



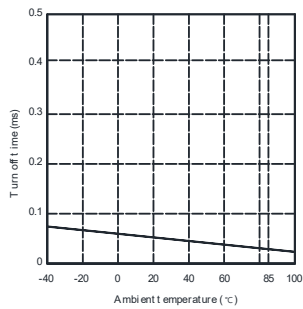
On resistance vs. Ambient temperature



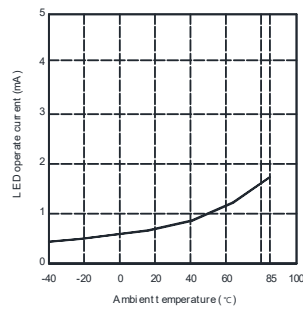
Turn on time vs. Ambient temperature



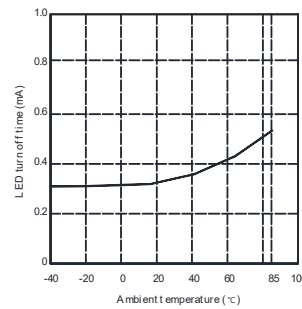
Turn off time vs. Ambient temperature



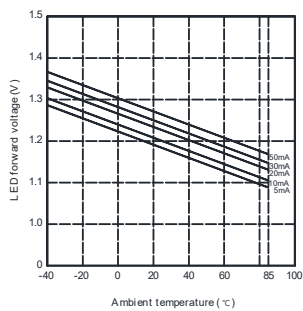
LED operate current vs. Ambient temperature



LED turn off time vs. Ambient temperature

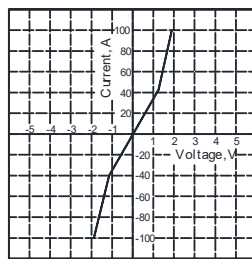


LED forward voltage vs. Ambient temperature



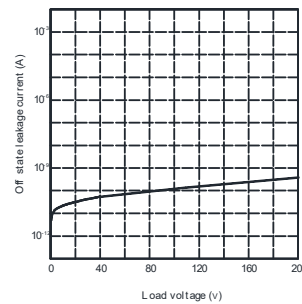
Voltage vs. current characteristics of output at

MOS portion



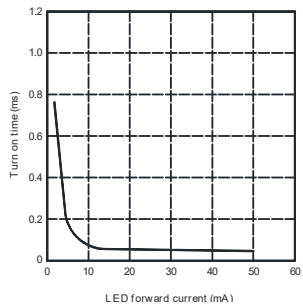
Off state leakage current vs. Load voltage

characteristics



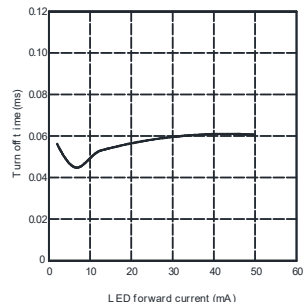
LED forward current vs. Turn on time

characteristics



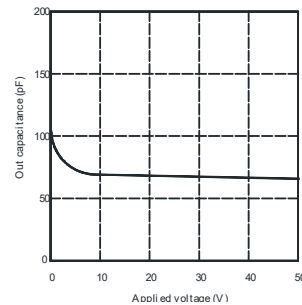
LED forward current vs. Turn off time

characteristics



Applied voltage vs. Output capacitance

characteristics



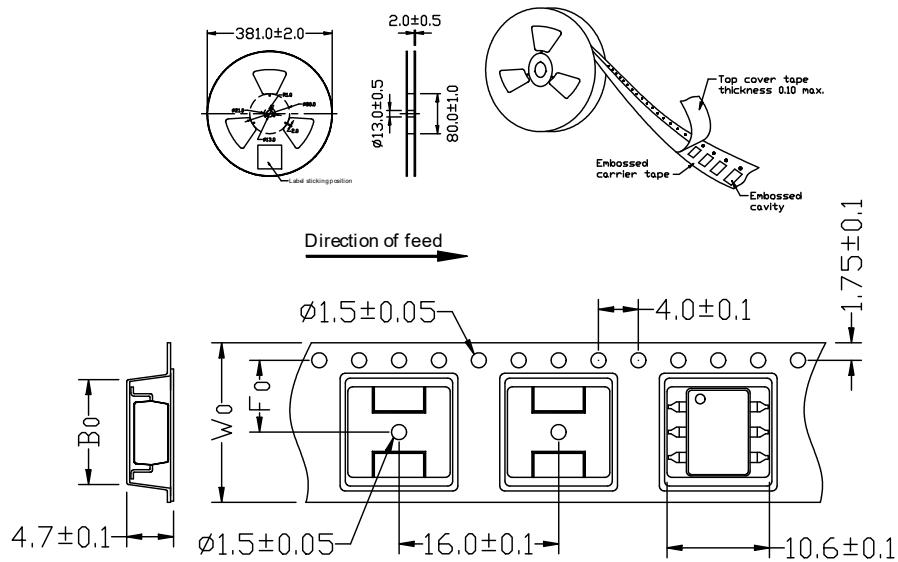
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### Taping specifications for surface mount devices



	$B_0$ (mm)	$F_0$ (mm)	$W_0$ (mm)
Specification	$5.3 \pm 0.1$	$7.5 \pm 0.1$	$16 \pm 0.1$

Package	Part No.		Packing quantity	
	Tube packing	Tape & Reel packing	Tube	Tape & Reel
DIP4	AY20(H)	-	100pcs/1tube	-
SMD4	AY20(H)A	AY20(H)A-R1		1000 pcs

\*H:Option



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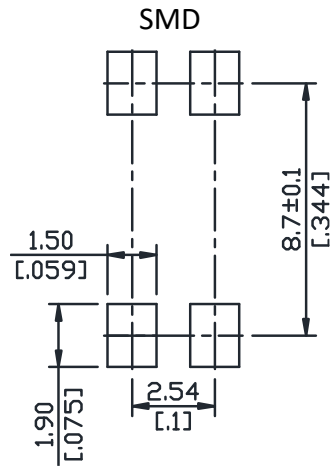
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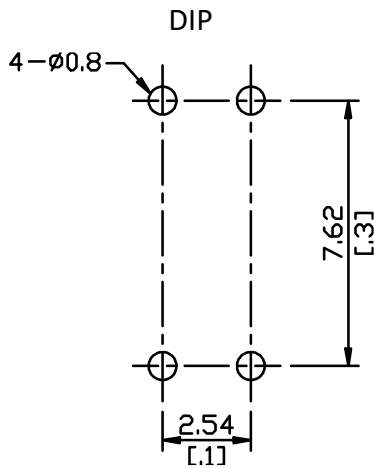
### Dimension

#### Recommended mounting pad



Unit:mm[inch]

Tolerance:±0.2[±0.007]

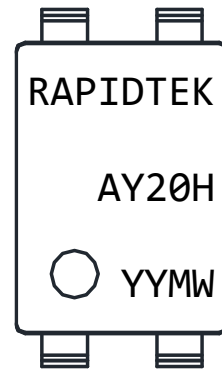


Unit:mm[inch]

Tolerance:±0.2[±0.007]

#### Marking

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



YY : Year, M : Monthly, W : Weeks

\*H:Option



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