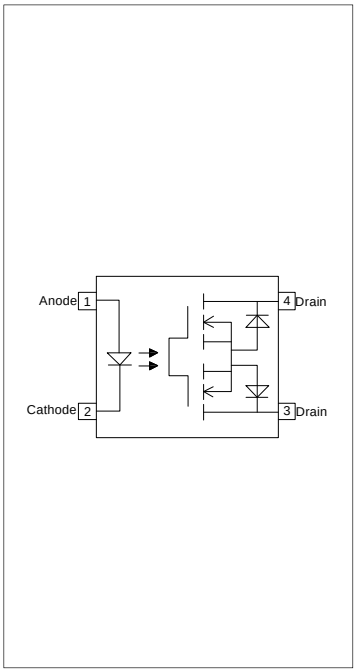
JOCMA58D-SS4

Rev.A.1.0

The products are 4-pin optical relays. The device is a very small outline non-leaded photorelay suitable for surface-mount assembly. It consists of an infrared LED optically coupled to a photo-MOSFET and is housed in a SSON4 package. It features low output capacitance, COFF, and thus fast on/off switching of a high-frequency signal, making it ideal for switching applications in high-speed testers. The products are widely used in automatic test equipment, high-speed logic IC testers, high-speed memory testers and measuring instruments.



Isolation voltage 500 Vrms
Operating temperature range -40°C to 110°C
REACH & RoHS compliance
HBM: H3A; MM: M4; CDM: C3
CQC approved
VDE approved
UL approved

(Temperature=25°C)

Parameter		Symbol	Value	Unit
Input	Forward Current	I_F	50	mA
	Peak Forward Current	I_{FP}	1	A
	Reverse Voltage	V_R	6	V
	Input Power Dissipation	P_D	75	mW
Detector	Off-state Output Terminal Voltage	V_{OFF}	100	V
	On-state Current	I_{ON}	1	A
	On-state Current (pulsed)	I_{ONP}	3	A
Isolation Voltage		V_{iso}	500	Vrms
Operating Temperature		T_{opr}	-40~110	
Junction Temperature		T_j	125	
Storage Temperature		T_{stg}	-55~125	

Soldering Temperature	T_{sol}	260	

(Temperature=25°C)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V_F	I_F=10mA	-	2	2.5	V
	Reverse Current	I_R	V_R=6V	-	-	1	μA
	Input Capacitance	C_{in}	V=0V f=1MHz	-	30	-	pF
Detector	Off-state Current	I_{OFF}	V_{OFF}=100V	-	1	10	nA
	Output Capacitance	C_{OFF}	V=0V f=1MHz t<1s	-	70	100	pF
Coupled	Trigger LED Current	I_{FT}	I_{ON}=1A	-	0.6	1	mA
	Return LED Current	I_{FC}	I_{OFF}=10μA	0.1	-	-	mA
	On-state Resistance	R_{ON}	I_{ON}=1A I_F=5mA t<1s	-	0.3	0.5	Ω
Switching Characteristics	Isolation Resistance	R_{ISO}	DC500V 40~60%R.H.	-	10^{14}	-	Ω
	Turn On Time	t_{on}	I_F=5mA I_L=Max.	-	0.3	2	ms
	Turn Off Time	t_{off}		-	0.1	0.3	ms

Characteristics	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	V_{DD}	-	-	80	V
Input Forward Current	I_F	5	7.5	20	mA
On-state Current	I_{ON}	-	-	0.5	A
Operating Temperature	T_{opr}	-20	-	100	

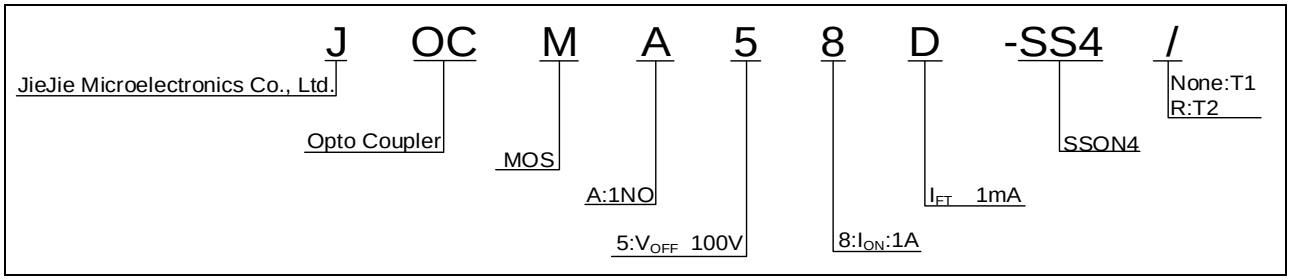

J
OC
M
A
5
8
D
-SS4
/
JieJie Microelectronics Co., Ltd.
Opto Coupler
MOS
A:1NO
5:V_{OFF} 100V
8:I_{ON}:1A
I_{FT} 1mA
SSON4
None:T1
R:T2

FIG.1: Max. Allowable LED Forward Current vs. Ambient Temperature

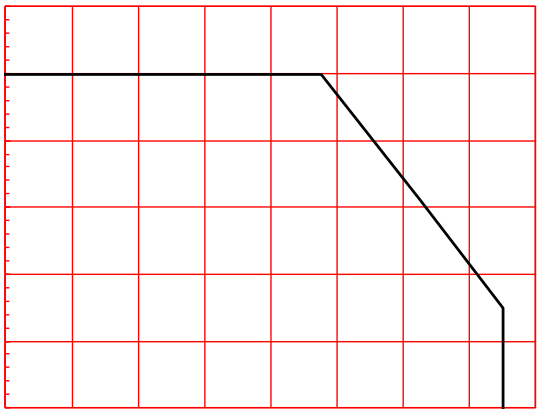


FIG.2: On-state Current vs. Ambient Temperature

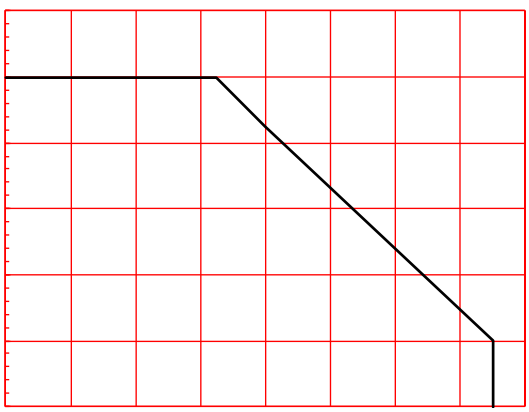


FIG.3: LED Forward Current vs. LED Dropout Voltage

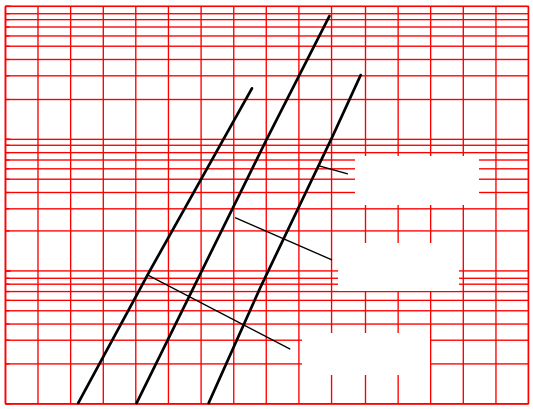
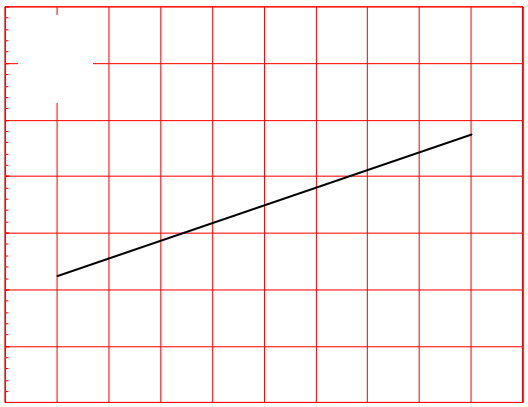
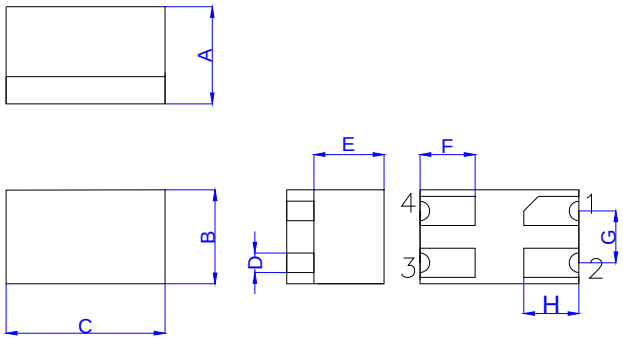
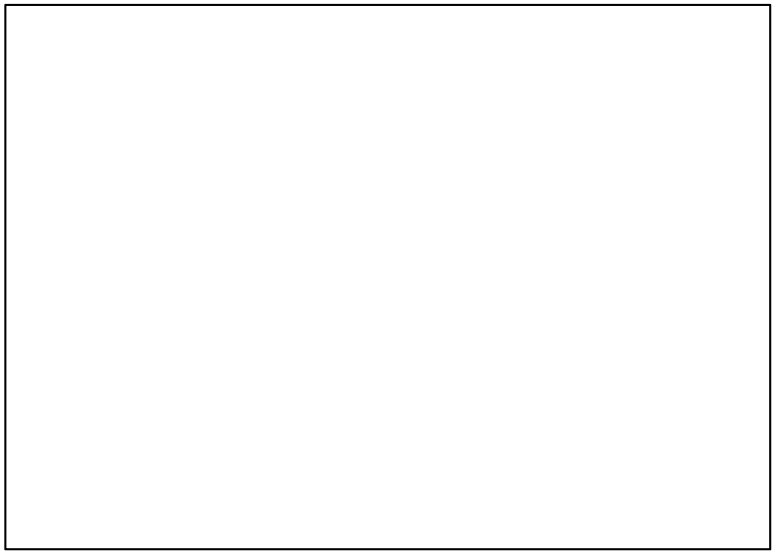


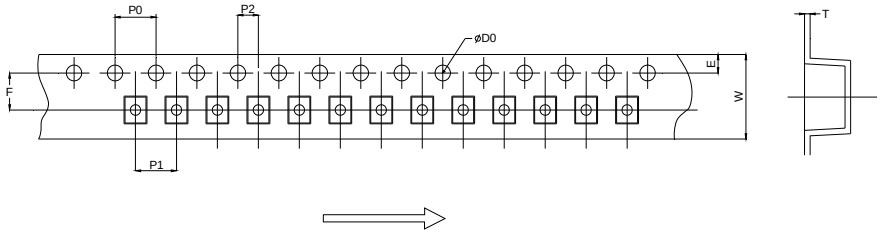
FIG.4: On-state Current vs. On-state Voltage



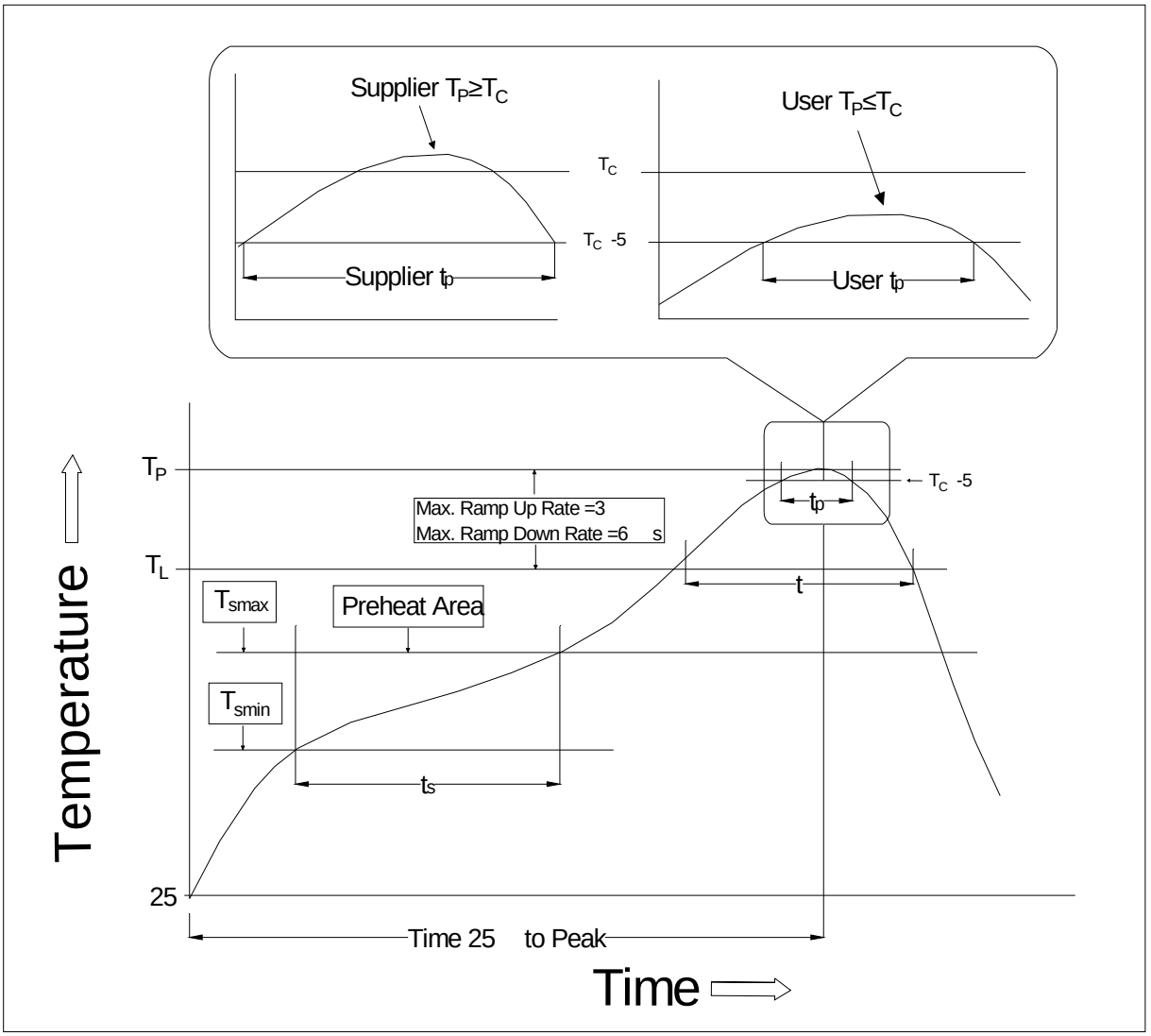


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.30		1.70	0.051		0.067
B	1.65		2.05	0.065		0.081
C	2.05		2.45	0.081		0.096
D	0.10		0.50	0.004		0.020
E	0.88		1.28	0.035		0.050
F	0.775		1.175	0.031		0.046
G	0.60		1.00	0.024		0.039
H	0.575		0.975	0.023		0.038





Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0		1.50	1.60		0.059	0.063
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	3.90	4.00	4.10	0.154	0.157	0.161
P2	1.90	2.00	2.10	0.075	0.079	0.083
E	1.65	1.75	1.85	0.065	0.069	0.073
F	3.40	3.50	3.60	0.134	0.138	0.142
T	0.20	0.25	0.30	0.008	0.010	0.012
W	7.70	8.00	8.30	0.303	0.315	0.327



Profile Feature	Sn-Pb Assembly Profile	Pb-Free Assembly Profile
Temperature Min. (Tsmin)	100	150
Temperature Max. (Tsmax)	150	200
Time (ts) from (Tsmin to Tsmax)	60-120 seconds	60-120 seconds
Ramp-up Rate (tL to tP)	3 /second max.	3 /second max.
Liquidus Temperature (TL)	183	217
Time (tL) Maintained Above (TL)	60-150 seconds	60-150 seconds
Peak Body Package Temperature	235 +0 /-5	260 +0 /-5
Time (tP) within 5 of 260	10 seconds	10 seconds
Ramp-down Rate (TP to TL)	3-6 /second	3-6 /second
Time 25 to Peak Temperature	6 minutes max.	8 minutes max.

Note:

1. Reflow soldering is recommended at the temperatures and times shown, no more than three times.

2. Avoid direct contact between the epoxy body and any tools or surfaces exceeding its maximum storage temperature.

3. Application of pressure on the epoxy body is prohibited at elevated temperatures. In specific scenarios, any applied force must not exceed 2.5N.

4. Ensure the component has cooled to ambient temperature before proceeding with any subsequent manufacturing steps.

5. The component has a shelf life of one year when stored under standard conditions.

6. Recommend storage Temp.: 0~40°C;

Recommend storage humidity: <60%;

MSL level: MSL 3