



JOCMA38D-M4 Series

Rev.A.1.0

DESCRIPTION:

The products are 4-pin optical relays. The device consists of an AlGaAs infrared emitting diode input stage optically coupled to a high-voltage output detector circuit in a plastic SOP4 package. The detector consists of a high-speed photovoltaic diode array and driver circuitry. The products are widely used in measuring and testing equipment, security and disaster prevention market, industrial machinery and equipment.

MAIN FEATURES

High isolation 3750 Vrms

Operating temperature range -40°C to 110°C

REACH & RoHS compliance

HBM: H3A; MM: M4; CDM: C3

CQC approved

VDE approved

UL approved

ABSOLUTE MAXIMUM RATINGS (Temperature=25°C)

Parameter		Symbol	Value	Unit
Input	Forward Current	I_F	50	mA
	Peak Forward Current]	I_{FM}	100	mA

NOTE1:

NOTE2: .

ELECTRICAL CHARACTERISTICS (Temperature=25°C)

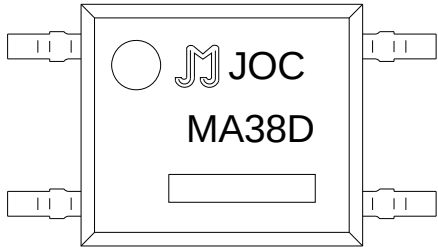
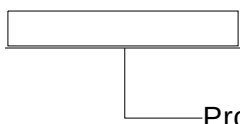
Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V_F	$I_F=10\text{mA}$	-	1.3	1.5	V
	Reverse Current	I_R	$V_R=6\text{V}$	-	-	1	μA
	Action Current	$I_{F(ON)}$	$I_O=I_{O(MAX)}$	-	-	1	mA
	Reset Current	$I_{F(OFF)}$	$I_O=I_{O(MAX)}$	0.4	0.8	-	mA
Output	On Resistance	R_{on}	$I_F=5\text{mA}$ $I_O=\text{Max.}$ Within 1s on time	-	0.2	0.4	Ω
	Off State Leakage Current	I_{Leak}	$I_F=0\text{mA}$, $V_O=\text{Max.}$	-	-	1	μA
	Output Capacitance	C_{OFF}	$V_{OFF}=0\text{V}$, $f_o=1\text{MHz}$	10	-	1000	pF
Switching Characteristics	Isolation Resistance	R_{ISO}	DC500V 40~60%R.H.	10^{12}	-	-	Ω
	Floating Capacitance	C_{IO}	$V=0$, $f=1\text{MHz}$	-	0.8	-	pF
	Turn On Time	t_{on}	$I_F=5\text{mA}$, $I_O=\text{Max.}$	-	0.6	2	ms
	Turn Off Time	t_{off}	$I_F=5\text{mA}$, $I_O=\text{Max.}$	-	0.2	1	ms

ORDERING INFORMATION

J	OC	M	A	3	8	D	-M4	/
JieJie Microelectronics Co., Ltd.	Opto Coupler	MOS	A:1NO	3:V _O :60V	8:I _O :1.25A	I _{ET} ≤ 1mA	SOP4	None:T1 R:T2

Packing Quantity			
Option	Quantity	Quantity – Inner box	Quantity –Outer box

MARKING

	 Production Information Code
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Characteristics Curves

FIG.1: LED Dropout Voltage vs. Ambient Temperature

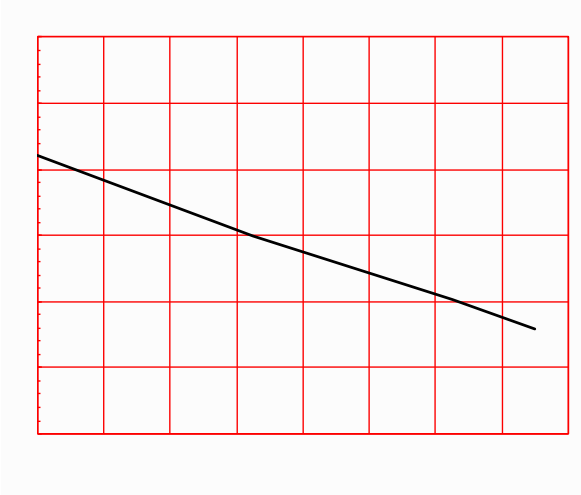


FIG.2: Output Current vs. Output Voltage

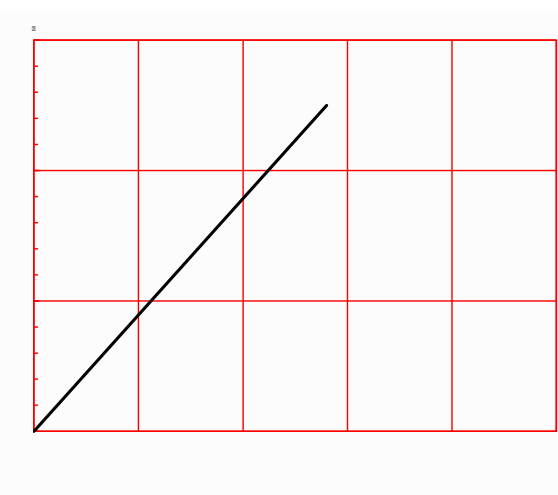


FIG.3: On Resistance vs. Ambient Temperature

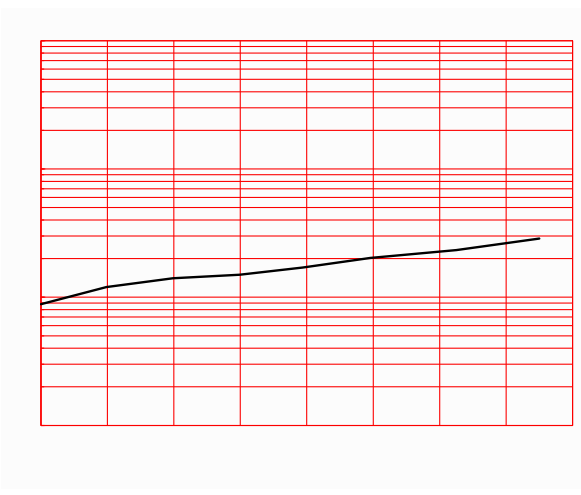


FIG.4: Load Current vs. Ambient Temperature

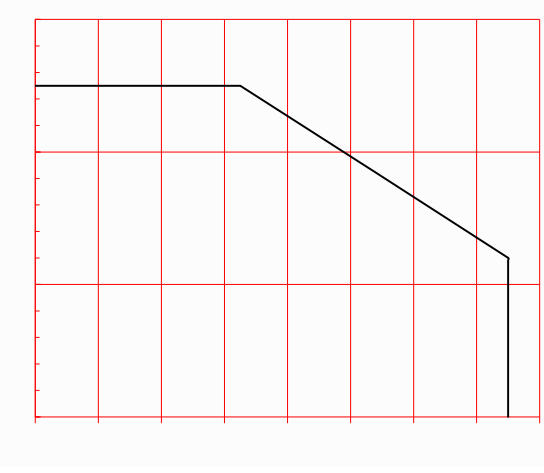


FIG.5: LED Operate Current vs. Ambient Temperature

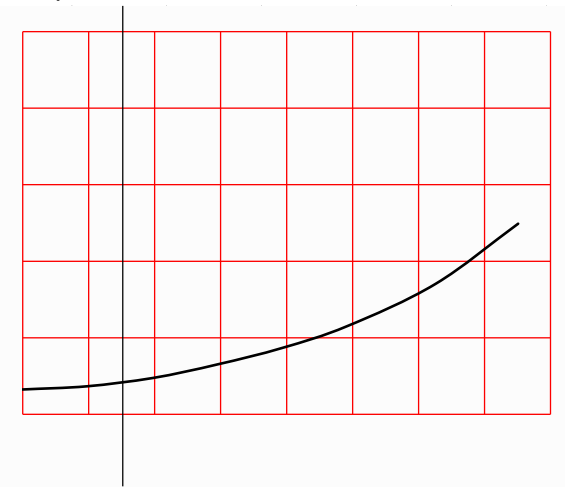


FIG.6: LED Turn Off Current vs. Ambient Temperature



FIG.7: Turn On Time vs. Ambient Temperature

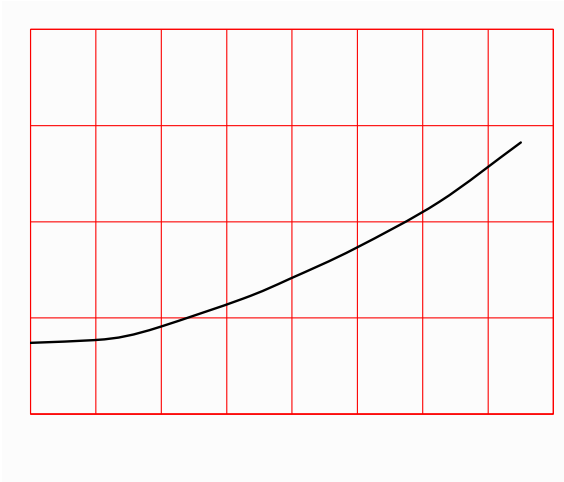


FIG.8: Turn Off Time vs. Ambient Temperature

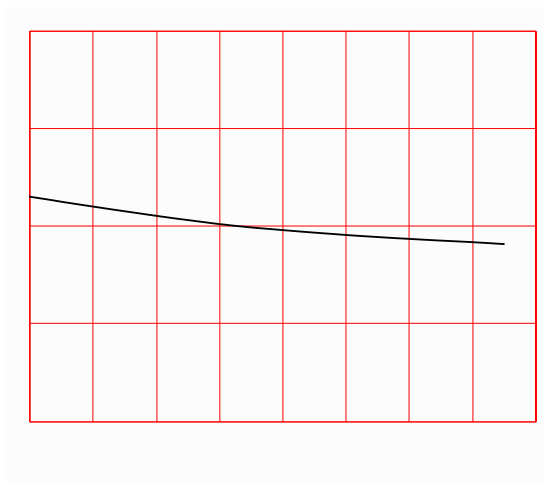


FIG.9: Turn On Time vs. LED Forward Current

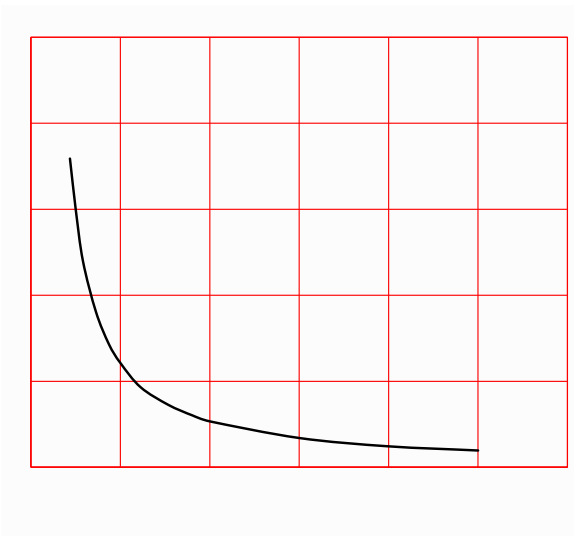


FIG.10: Turn Off Time vs. LED Forward Current

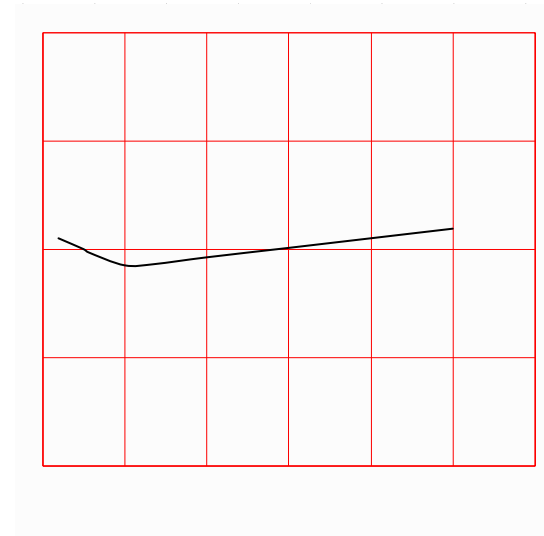


FIG.11: Off State Leakage Current vs. Load Voltage

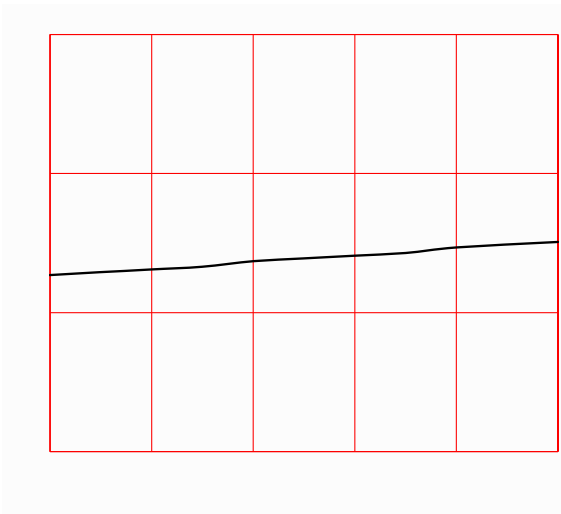
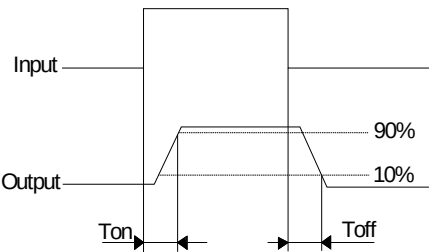
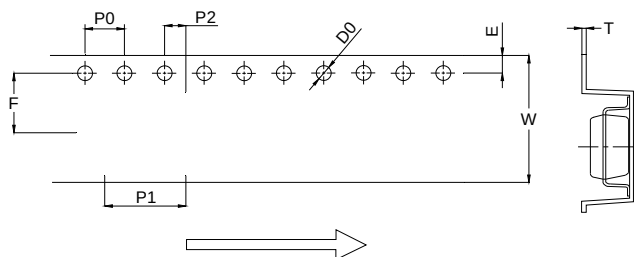


Fig.12: Turn on/Turn off time

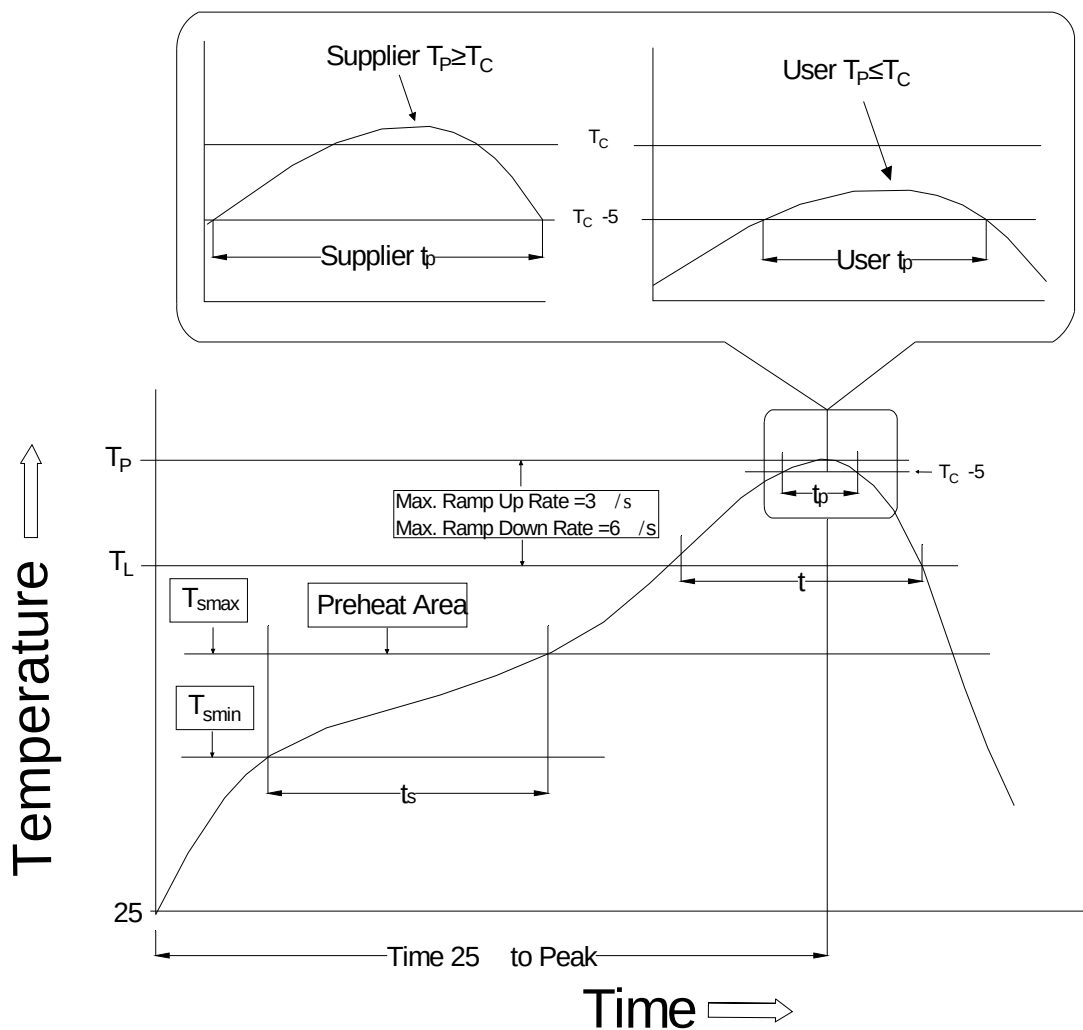


CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

Option None



REFLOW INFORMATION



Profile Feature	Sn-Pb Assembly Profile	Pb-Free Assembly Profile
Temperature Min. (T_{smin})	100	150
Temperature Max. (T_{smax})	150	200
Time (t_s) from (T_{smin} to T_{smax})	60-120 seconds	60-120 seconds
Ramp-up Rate (t_L to t_P)	3 °C/second max.	3 °C/second max.
Liquidus Temperature (T_L)	183	217
Time (t_L) Maintained Above (T_L)	60-150 seconds	60-150 seconds
Peak Body Package Temperature	235 +0 /-5	260 +0 /-5
Time (t_P) within 5 °C of 260	10 seconds	10 seconds
Ramp-down Rate (T_P to T_L)	3-6 °C/second	3-6 °C/second
Time 25 °C 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