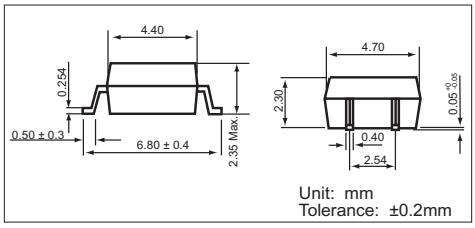
USR/CNR Listed (File# E223388)

Features

1. Normally open, single pole single throw.
2. Control 200VAC or DC voltage.
3. Switch 180mA loads.
4. LED control current, 5mA.
5. Low ON-resistance.
6. dv/dt, >500V/mS.
7. Isolation test voltage, 1500V_{RMS}.
8. Package Type: SOP(shown)

Part Numbering System & Part Marking System: Page 3 & 4.

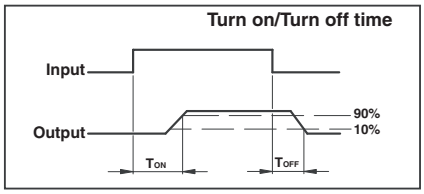
WPPM-2024S



Absolute Maximum Ratings

(Ta = 25°C)

Emitter (Input)	Detector(Output)
Reverse Voltage.....5.0V	Output Breakdown Voltage .....±200V
Continuous Forward Current 50mA	Continuous Load Current .....±180mA
Peak Forward Current 1A	Power Dissipation 450mW
Power Dissipation 75mW	
Derate Linearly from 25°C.....1.3mW/°C	
General Characteristics	
Isolation Test Voltage ..... 1500V_{RMS}	Storage Temperature Range ...-40°C to +150°C
Isolation Resistance,	Operating Temperature Range ..-40°C to +85°C
V_{IO} = 500V, T_A = 25°C.....>$10^{10}\Omega$	Junction Temperature ..... 100°C
Total Power Dissipation 500mW	Soldering Temperature,
Derate Linearly from 25°C.....2.5mW/°C	2mm from case, 10 sec. ..... 260°C

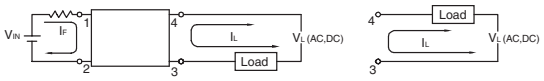


Electro-optical Characteristics

(Ta = 25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Emitter (Input)						
Forward Voltage	V_F	I_F = 10mA	-	1.2	1.5	V
Operation Input Current	I_{FON}	V_L = ±20V, I_L = 100mA, t = mS	-	1.5	5	mA
Recovery Input Current	I_{FOFF}	V_L = ±20V, I_L = <5uA	0.2	-	-	mA
Detector(output)						
Output Breakdown Voltage	V_B	I_B = 50uA	200	-	-	V
Output Off-State Leakage	I_{TOFF}	V_T = 100V, I_F = 0mA	-	0.2	1	uA
I/O Capacitance	C_{ISO}	I_F = 0, f = 1MHz	-	6	-	pF
ON Resistance	R_{ON}	I_L = 100mA, I_F = 10mA	-	6	15	Ω
Turn-On Time	T_{ON}	I_F = 10mA, V_L = ±20V	-	0.4	1.0	mS
Turn-Off Time	T_{OFF}	t = 10mS, I_L = ±100mA	-	0.3	1.0	mS

MOS Relay Schematic and Wiring Diagrams

Type	Schematic	Output Configuration	Load	Connection	Wiring Diagrams
2024S		1a	AC/DC	A	

Data Curves

Fig. 1 Load Curent vs. Ambient Temperature
Allowable ambient temperature:
-40˚C to + 85˚C

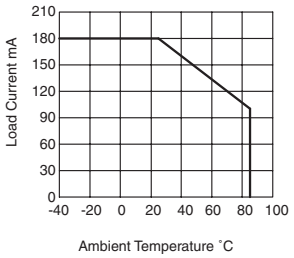


Fig. 2 On Resistance vs. Ambient Temperature
Across Terminals 3 and 4 pin
LED current: 5mA
Continuous load current: 180mA (DC)

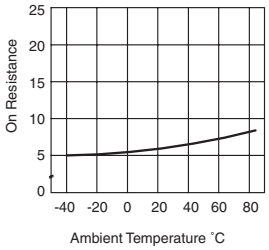


Fig.3 Turn on time vs. Ambient Temperature
Load voltage: 200V(DC)
LED current: 5mA
Continuous load current: 180mA(DC)

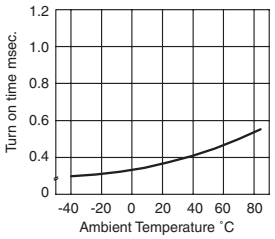


Fig. 4 Turn off time vs. Ambient Temperature
LED current: 5mA
Load voltage: 200V(DC)
Continuous load current: 180mA(DC)

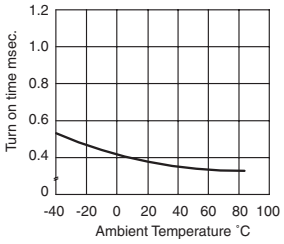


Fig. 5 LED operate vs. Ambient Temperature
Load voltage: 200V(DC)
Continuous load current: 180mA(DC)

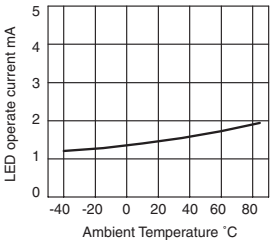


Fig. 6 LED turn off current vs. Ambient Temperature
Load voltage: 200V(DC)
Continuous load current: 180mA(DC)

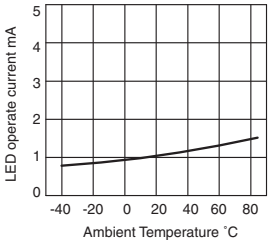


Fig. 7 LED Dropout Voltage vs.
Ambient Temperature
LED current: 5 to 50mA

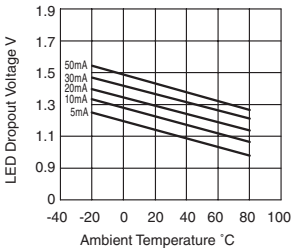


Fig. 8 Voltage vs. Current Characteristics
of output at MOSFET portion
Measured portion:
Across terminals 3 & 4pin
Ambient Temperature: 25˚C

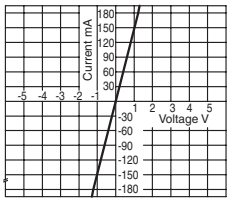


Fig. 9 LED forward current vs. turn on time
Across terminals 3 and 4 pin
Load voltage: 200V(DC)
Continuous load current: 180mA(DC)
Ambient Temperature: 25˚C

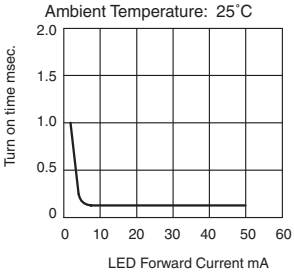


Fig. 10 Off State Leakage Current
Across terminals 3 and 4 pin
Ambient Temperature: 25˚C

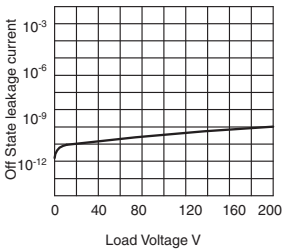


Fig. 11 LED forward current vs. turn off time
Across terminals 3 and 4 pin
Load voltage: 200V(DC)
Continuous load current: 180mA(DC)
Ambient Temperature: 25˚C

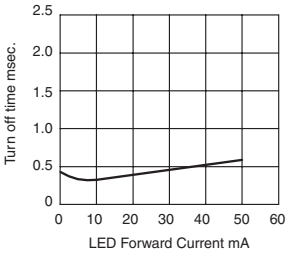


Fig. 12 Applied voltage vs. Output Capacitance
Across terminals 3 and 4 pin
Frequency: 1MHz
Ambient Temperature: 25˚C