Subminiature Automotive Relay SRMA

- High current contact capacity
- Switching capacity up to 20A (at 85ºC)
- Improved heat resistance
- Extended operation range
- High resistance to vibration and shock
- Two types of contact material

Options and ordering codes

SRMA - 1C T - S L - 24VDC

Contact form

SPNO	1A
SPCO	1C

Contact material

$AgSnO_2$	T
AgNi	N

Sealing

S	Sealed
F	Flux Tight

L	RoHS Compliant

Coil Voltage

Contact Data

Contact arrangement	1A, 1C
Voltage drop (initial)[1]	Typ.: 100mV (at 10A) Max.: 250mV (at 10A)
Max. carrying current (NO contact)	35A/10min. 25A/1h[2]
Max. switching current	NO/NC: 25/20A (at 16VDC)
Max. switching voltage	60VDC
Max. switching Power	210W
Contact rating	Resistive: 15A 14VDC Motor locked: 20A 14VDC Motor free: Break: 4A 14VDC Shock: 20A 14VDC
Min. contact load	1A 6VDC
Mechanical life	$1x10^7$ OPS
Electrical life	$2x10^5$ OPS

[1] Equivalent to the max.initial contact resistance is 100MΩ (1A 6VDC)
[2] 25˚C, measured when coil is energized with 100% nominal voltage

Characteristics

Initial Insulation Resistance		100MΩ @ 500VDC
Dielectric Strength	Between coil & contact	500VAC, 1min.
	Between open contacts	500VAC, 1min.
Operate time (at nomi. Volt)		Max. 10ms
Release time (at nomi. Volt)		Max. 5ms
Temperature rise (at nomi. Volt)		Max. 60˚C
Shock resistance	Functional	$100m/s^2$
	Destructive	$1000m/s^2$
Vibration resistance		DA:1.5mm, 10 to 55Hz
Humidity		98% +40˚C
Ambient temperature		-40˚C to +85˚C
Storage temperature		-40˚C to +155˚C
Termination		PCB
Unit Weight		6g
Construction		Sealed IP67 & Flux proof

Coil Data

at 20˚C

Nominal Voltage VDC	Pick-Up Voltage VDC 20˚C	Pick-Up Voltage VDC 85˚C	Drop Out Voltage VDC 20˚C	Coil resistance Ω	Power Consumption W
6	3.6	4.5	0.5	60	0.6
9	5.4	6.8	0.7	135	0.6
10	6.3	7.9	0.8	180	0.6
12	7.3	9.0	1.0	240	0.6
18	10.8	13.5	1.5	540	0.6
24	14.4	18.0	2.2	960	0.6

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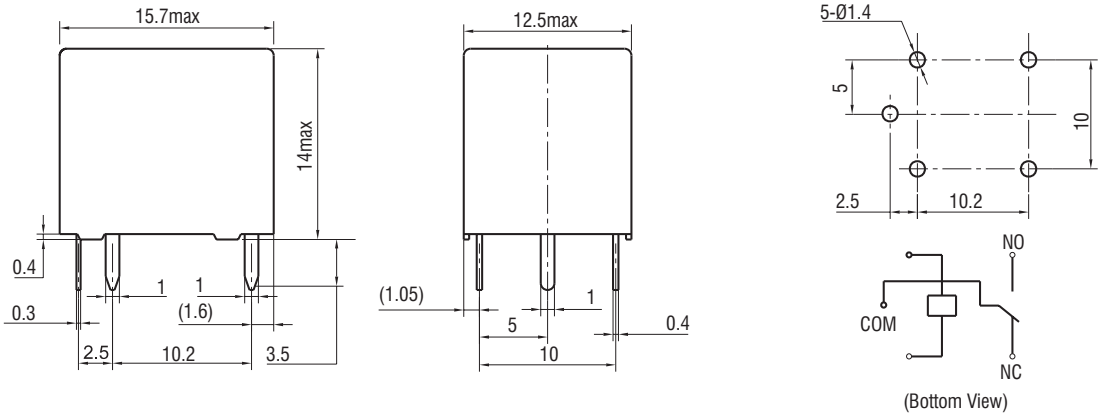
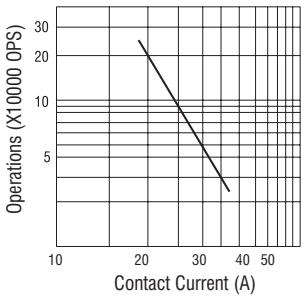
Outline dimensions (mm)
Wiring diagram and PC Board layout

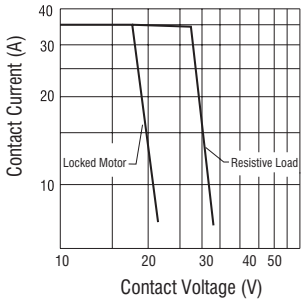


Characteristic Curve

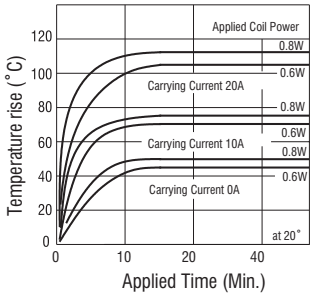
LIFE CURVE



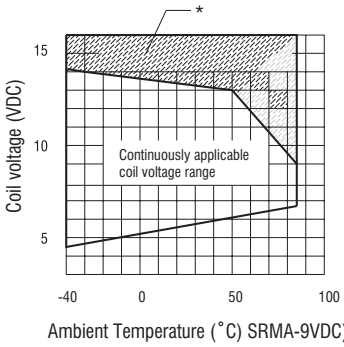
MAXIMUM SWITCHING POWER

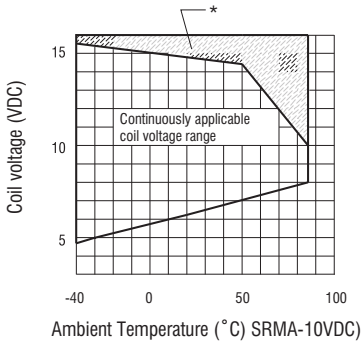


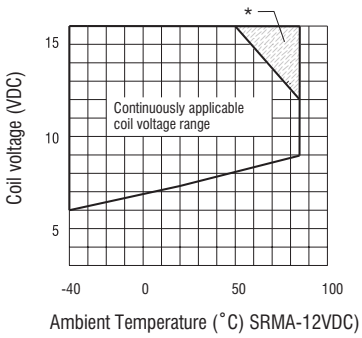
COIL TEMPERATURE RISE



COIL OPERATING TEMPERATURE RANGE

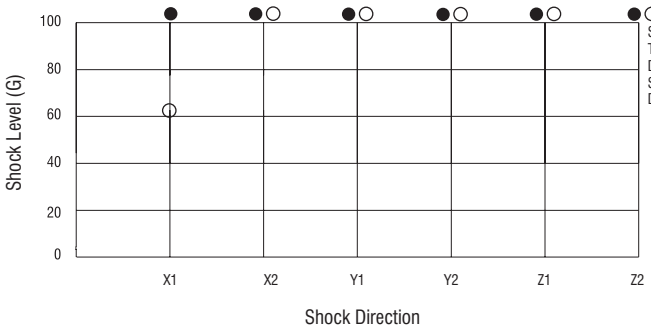




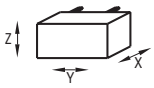


* Intermittent coil operation is required in this region at 20A or more carrying current

SHOCK RESISTANCE CHARACTERISTICS



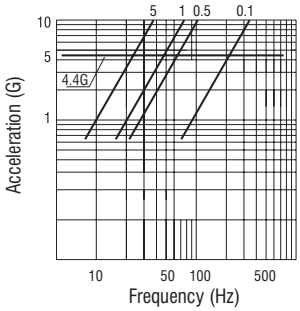
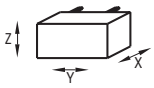
Shock application time: 11ms
Test Material: Coil Energised & De-Energised
Shock Direction: See diagram
Detection Levels: 100 us



○: NC Contact
●: NO Contact

VIBRATION RESISTANCE CHARACTERISTCS

DUAL AMPLITUDE



Frequency: 10 to 500HZ
Acceleration: 10G Max
Direction of Vibration: See diagram
Detection Level: 100 us