



O/E/N 78

AUTOMOTIVE POWER RELAY

FEATURES

- High performance
- Small Size
- Light Weight
- Enclosed
- Rubber Boot & Coupler Available

APPLICATION

- Starter Motor
- Defogger
- Radiator Fan
- A/C Controls

TECHNICAL DATA FOR CONTACT SIDE :

Areas of Application

Contact Configuration	:	
Contact Material	:	
Contact Rating at 23°C - 12VDC	:	
Electrical Life Operations Min.	:	
Mechanical Life Operations Min.	:	
Contact Voltage Drop at 10 A	:	
Maximum Switching Current @ 12.8 VDC For 3 Sec.	:	

RESISTIVE / INDUCTIVE LOAD

1A
Silver Nickel
22A
2 x 10 ⁵
1 x 10 ⁶
100mV
200A

GENERAL DATA FOR COIL SIDE

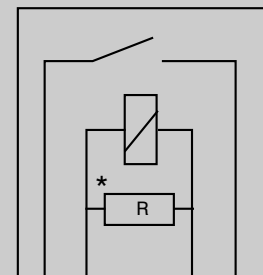
Nominal Coil Power	:	1.44W (Approx)
Operating Power	:	0.92W (Approx)
Operate Time*	:	10 milli Seconds
Release Time*	:	5 milli Seconds

* At nominal voltage without coil suppression (excluding bounce)

OPERATING CONDITIONS

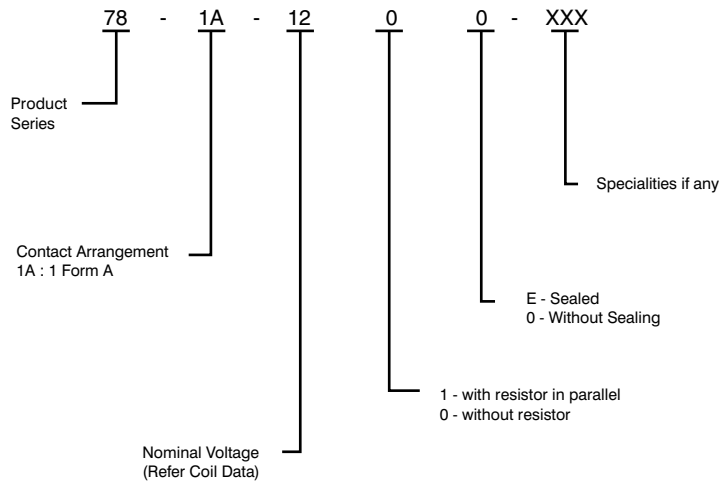
Ambient Temperature	:	-30°C to +85°C
Maximum Temperature	:	155°C
Dielectric Strength	:	750VRMS
Insulation Resistance	:	100 Meg Ohms Min. At 500 VDC, 25°C RH 50
Vibration Resistance (without change in the switching state > 10μS)	:	10-500Hz 20g
Shock Resistance (without change in the switching state > 10μS)	:	20g, 8mS

CIRCUIT DIAGRAM



* parallel resistor or diode optional

HOW TO ORDER

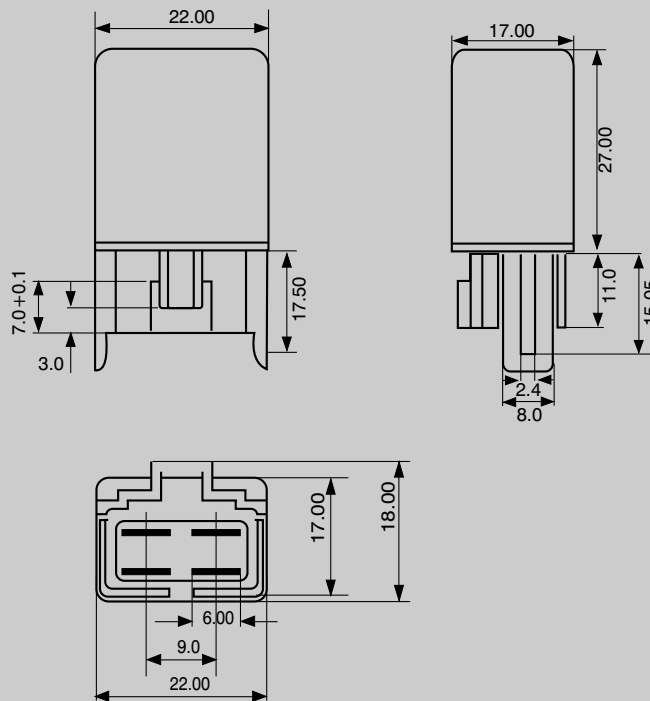


COIL DATA

Nominal Voltage VDC	**Pick-up Voltage VDC (Max)	Drop-out Voltage (Min)	Coil Resistance at 20°C Ohms ± 10%
12	7.2	1.2	100
24	14.8	2.4	320

**Lower pick-up Voltages available on request

DIMENSIONS



MECHANICAL DATA

COVER RETENTION

Pull : 20KgF
Push : 20KgF

TERMINAL STRENGTH

Pull : 10KgF
Push : 10KgF
Plug-in Force : 12.25KgF
Removal Force : 11.35KgF

AVAILABLE ON REQUEST

- High temperature winding wire
- Special coil resistance & pick-up
- Resistor / diode across coil
- For other custom solutions consult factory

DATA ON VARIOUS TESTS CONDUCTED FOR OPERATING CONDITIONS *

TEST	TEST CONDITION	RESULT
Continuous Energisation test at Extreme temperature Conditions	Relay kept at 100 ^o C Coil Voltage : 14 VDC Load given : 20 A @ 12 VDC Duration : 5 Sec. On, 5 Sec. OFF No. of operation : 50000 The above test repeated at - 30 ^o C for 50000 operations	Relays successfully completed 100000 operations at given load
Thermal cycling	Relay subjected to :- -30 ^o C to + 100 ^o C in 2 Hrs. with coil ON +100 ^o C for 2 Hrs. with coil ON +100 ^o C to - 30 ^o C in 2 Hrs. with 1 Hrs. Coil ON & 1 Hrs. Coil OFF -30 ^o C for two Hrs. with Coil ON No. of Cycles : 3	All operating parameters within the specifications after test
Shock Voltage	Relay is subjected to :- Max. Voltage : 100VDC Shock Wave : Exponential Damping vibration Time : 500 micro Sec. Period : 30 Sec. Test Time : 10 Hrs.	After the test, all operating parameters of the relay are within specification.
Dropping Impact	Relays dropped from a height of 1 Meter to a concrete floor	No change in operating parameters of the relay.
Jump Start	24 VDC for 1 minute conducting normal current at 23 ^o C	Withstood successfully
Water Resistance test AS per JIS D 0203 R2	Horizontal Plane:23rev. / Min. Water Pressure:0.03 Mpa Test time:10 Min	No water ingress inside the relay

*Typical values for relays with 12 VDC coll. For higher severity please consult factory