KKA-B8

80A Automotive Relay

Features

- 80A switching capability, 28*28mm size
- 1 Form A & 1 Form C contact arrangement
- Plug in and PCB terminals for option
- Paralleled resistor and diode available
- Comply with RoHS, ELV directive

Typical Application

Applicable to automotive grade 80A circuits: ABS control, cooling fan, power management, engine control, glow plugs, heated front windshield, ignition, lights: headlights, taillights, fog lights, main switch/power relay.

ORDERING GUIDE

	KKAB8	-012	1H	23	-R	(XXX)
Type	B8 - cubic shell B8M - with iron bracket B8P - with plastic bracket B8T - Transparent with LED light					
Coil Voltage	012:12VDC 024:24VDC					
Contact Form	1H:1 Form A 1Z:1 Form C					
Terminal Type	23: brass coil pin,copper working pin, default tinned					
Parallel Coil Components	Nil: without parallel component R: parallel transient supression resistors D1:parallel transient supression diode, with anode connected to terminal #85 D2:parallel transient supression diode, with anode connected to terminal #86					
Special Code	(XXX):customer special requirement Nil: Standard					

COIL DATA

at 23°°C

Nominal voltage VDC	Pick-up voltage VDC max.	Drop-out voltage VDC min.	Coil resistance x(1±10%)Ω	Parallel Resistance[2] x(1±5%)Ω	Equivalent resistance Ω	Power consumption W	Max.allowable overdrive voltage[1] VDC	
							at 23°C	at 85°C
12	7.2	1.2	90			1.6	20.2	15.7
12	7.2	1.2	90	680	79.5	1.8	20.2	15.7
24	16	2.4	320			1.8	40.5	31.5
24	16	2.4	320	2700	286	2.0	40.5	31.5

1)Max.allowable overdrive voltage is stated with no load applied.
2)with the type with parallel resistor (680Ω,12V),(2700Ω,24V).

CHARACTERISTICS

Contact arrangement	SPST-NO(1H), SPDT(1Z)
Voltage drop	Typ.20mV, 250mV max. (at 10A)
Max.continuous current [1) 10)]	70A(at 23°C),50A(at 85°C), 30A(at 125°C)
Max.switching current[10)]	Make(NO):200A[2)] Break(NO):70A(Resistive,13.5VDC)
Min.contact load	1A 6VDC
Electrical endurance	See "CONTACT DATA"
Mechanical endurance	1x10^{8}OPS (300OPS/min)
Insulation resistance	100M Ω (at 500VDC)
Dielectric strength[3)]	500VAC
Operate time[10)]	Max.:10ms (at nomi.vol.)
Release time[10)]	Max.:10ms
Ambient temperature	-40°C to 125°C
Vibration resistance [5)10)]	5Hz to 22.3Hz 10mm DA 22.3Hz to 500Hz 98m/s^2
Shock resistance [5)10)]	294m/s^2
Flammability[6)]	UL94-HB or better(meets FMVSS 302)
Termination	QC[11)], PCB[7)]
Construction	Plastic sealed,Dust protected
Unit weight	Approx.38g
Mechanical data[8)]	housing retention (pull &push):200N min. terminal retention(pull &push):100N min. Terminal resisitance to bending (front &side):10N min[9)]

CONTACT DATA

Load voltage	Load type		Load current (A) [(1) (4)]	On/Off ratio On S	On/Off ratio Off S	Electrical Endurance[3)] OPS	Contact Material	Load wiring Diagram[4)]	Ambient temp
13.5 VDC	Resistive	Make	70	2	2	1×10^5	$AgSnO_2$	See diagram 1	See Ambient Temp. Curve
		Break	70						
	Lamp[1)]	Make	200[2)]	2	2	1×10^5	$AgSnO_2$	See diagram 2	
		Break	40						
	Inductive	Make	150	2	2	1×10^5	$AgSnO_2$	See diagram 3	
		Break	50						
27VDC	Resistive	Make	40	2	2	1×10^5	$AgSnO_2$	See diagram 1	
		Break	40						

1)The load in the table excludes flasher. When applied in flasher, a special silver ally (AgSnO2) contact material should be used and the customer special code should be (F) as a suffix. Please heed the anode and cathode's request when wired, terminal 30 should connect with anode.
2)Corresponds to the peak inrush current on initial actuation (cold filament).
3)A low resistive or diode suppression device in parallel to the relay coil increases the release time and reduces the life time caused by increased erosion and/or higher risk of contact welding.
4)The load wiring diagrams are listed below:
5)Loads mentioned in this chart is for relay with no parallel diode or Zener Diode. For those with parallel diode, Zener Diode or other components, please contact KKA for more technical supports.
Please also contact KKA if the actual application load is different from what mentioned above.

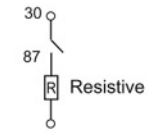


diagram 1

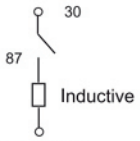


diagram 2

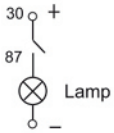
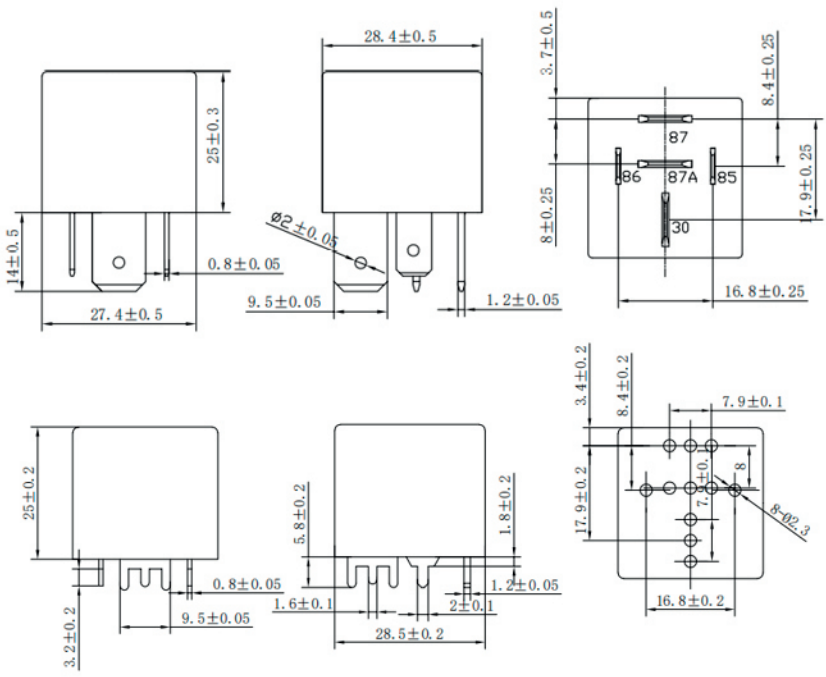


diagram 3

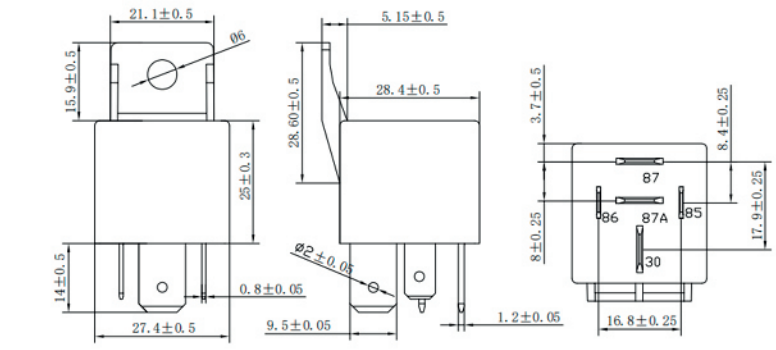
1)Measured when applying 100% rated votage on coil.
2)Inrush peak current under lamp load, at 13.5VDC.
3)1min, leakage current less than 1mA
4)The value is measured when voltage drops suddenly from nominal voltage to 0 VDC and coil is not paralleled with suppression circuit.
5)When energized, opening time of NO contacts shall not exceed 100μs.
6)FMVSS: Federal Motor Vehicle Safety Standard.
7)Since it is an environmental friendly product, please select lead-free solder when welding. The recommended soldering temperature and time is(250±3)°C,(5±0.3)s.
8)Only valid for QC version.
9)Test point is at 2mm away from terminal end, and after removing testing force, the terminal transfiguration shall not exceed 0.3mm.
10)Only for the 12VDC coil voltage type.
11)Do NOT knock on relays with hard objects such as rubber rod and rubber hammer during mounting, which might lead to relay damage.

DIMENSION

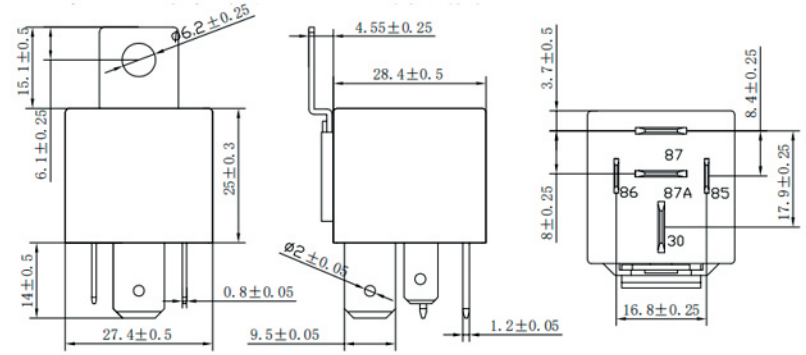
B8



B8P



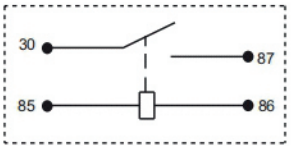
B8M



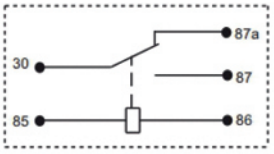
Remark: In case of no tolerance shown in outline dimension: outline dimension≤1mm, tolerance should be ±0.2mm;
Outline dimension>1mm and≤5mm, tolerance should be ±0.3mm; outline dimension>5mm, tolerance should be ±0.4mm.

WIRING DIAGRAM

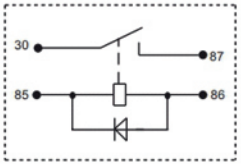
KKAB8-□1H□-□



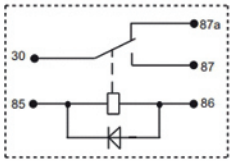
KKAB8-□1Z□-□



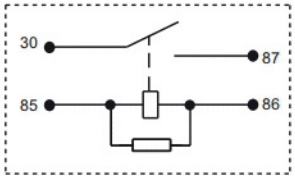
KKAB8-□1H□-D1



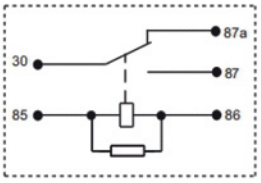
KKAB8-□1Z□-D1



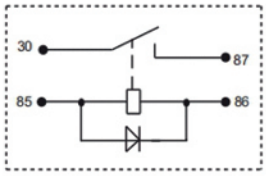
KKAB8-□1H□-R



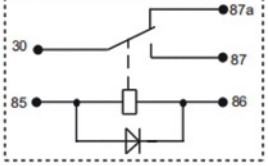
KKAB8-□1Z□-R



KKAB8-□1H□-D2

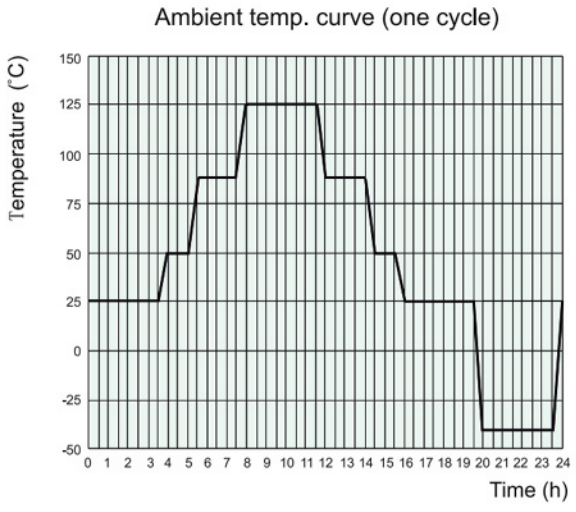


KKAB8-□1Z□-D2



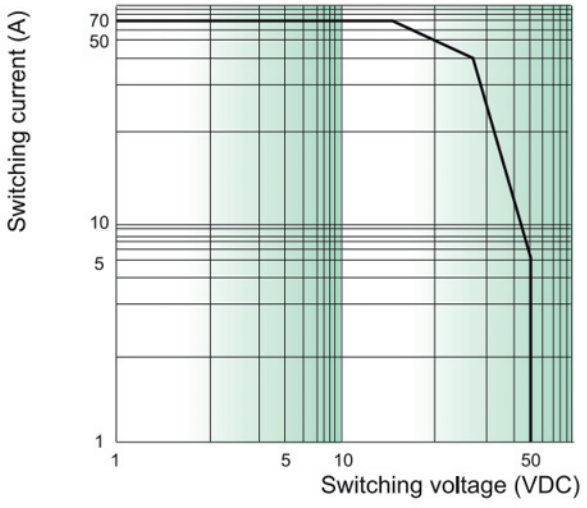
CHARACTERISTICS CURVES

Ambient temperature curve of the electrical endurance test



1)The minimum temperature is -40℃ .
2)The maximum temperature is 125℃ .

Load limit curve (at 23℃)



1)This chart takes NO contact,resistive load as example.
2)The load and electrical endurance tests are made according to "CONTACT DATA" parameters' table. If actual load voltage, current, or operate frequency is different from "CONTACT DATA" table, please arrange corresponding tests for confirmation.