CUPE / CUPV

www.cotorelay.com

DESCRIPTION

The CUP Series has become a standard in he European relay market due to its versatile switch and schematic options. The staggered pin layout gives more sopace and allows for higher isolation from pin to pin on the PC board when compared to 1.0"x0.1" relays. Designers have a choice between three switch technologies, the ruthenium sputtered DYAD, the all position mercury wetted MYAD, and the vertically mounting high performance MH4 contact. There is a choice between plastic and metal covers, as well as non-encapsulated types for lower capacitance. The CUPV models offer high input to output isolation and are BS EN 60950 approved.

FEATURES

- Standard nominal coil voltages include 5, 12, and 24 volts
- Available with plastic and metal can housings
- Designed to meet the most stringent telecommunications specifications on a worldwide basis
- Ideal for optional high isolation between input and output (up to 4000Vrms)

APPLICATIONS

- Telecom
- Process control
- General purpose electronics
- Industrial
- Security

SPECIFICATIONS

CUP E

All parameters are at 25°C unless otherwise stated.

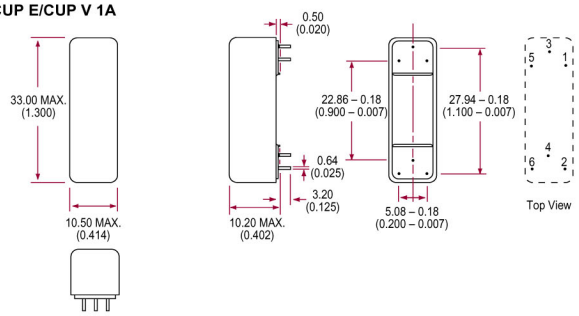
Parameters	Conditions	Switch Type 6 All Position Wetted Contacts MYAD Min	Typ	Max	Switch Type 5 Wetted Contacts MH4 Min	Typ	Max	Switch Type 1 Dry Reed DYAD Min	Typ	Max	Units
Contact Ratings											
Switching Voltage	Max DC/PeakAC Resistive			500			1000			200	Volts
Switching Current	Max DC/PeakAC Resistive			2			2			0.75	Amps
Carry Current	Max DC/PeakAC Resistive			3			3			2	Amps
Contact Rating	Max DC/PeakAC Resistive			50			50			10	Watts
Life Expectancy	Signal Level 1.0V 10mA		300			2000			500		x10^6
	Rated Loads[1]										x10^6
Static Contact Resistance	50mV, 10mA			100			40			200	mOhms
Contact Material			Hg			Hg			Ru		
Hg Content			16			40			N/A		mgrams
Relay Specifications											
Insulation Resistance	Across Open Contacts	10^8			10^8			10^{10}			Ohms
	Contact to Coil	10^{10}			10^{10}			10^{10}			Ohms
Capacitance	Across Open Contacts		1.5	2		1	1.5		1	1.5	pF
	Open Contact to Coil		3.5	3.8		2	2.5		2.5	3	pF
	Closed Contact to Coil		7.5	8		5	8		5	5.5	pF
Dielectric Strength	Across Open Contacts	1400			2000			350			VDC/Peak
	Contacts to Coil	2800			2800			2800			VDC/Peak
Operate Time (no bounce)	At Nominal Coil Voltage		1.6	2.7			3		0.55	1[(2)]	ms
(bounce included-CUP1)	10Hz Square Wave										
Release Time	Zener-Diode Suppression		1.4	1.75		1.5	2.5		0.5	1.3	ms
Enviromental Ratings											
Storage Temperature		-40		+105	-40		+105	-40		+105	°C
Operating Temperature		-38		+75	-38		+75	-40		+85	°C
Soldering Temperature	Applied to pins, 5sec. max			+260			+260			+260	°C
Vibration Resistance (survival)	10Hz - 500Hz			10			10			20	Gs
	5Hz - 2000Hz (Sw type 1)										Gs
Shock Resistance (survival)	11+/- 1ms, 1/2 Sine Wave			30			30			50	Gs
Weight (1A)			6.5			6.6			3.8		grams
Weight (2A2B/5A)			13.8			16.7			15.8		grams

[1]Consult factory for life requirements
[2]1.5msec. maximum for 4&5 form A relays, 1.5msec. maximum for 5 form A, 2 form B and 2A2B relays

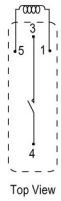
MECHANICAL DIMENSIONS

DIMENSIONS
mm
(inches)

CUP E/CUP V 1A

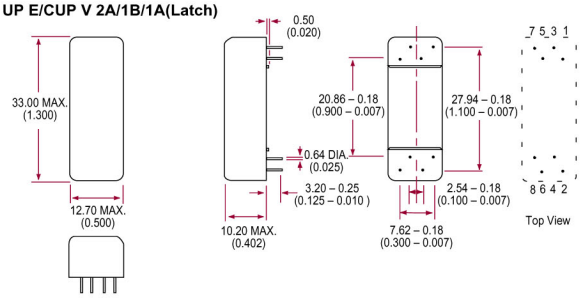


CUP E 1A

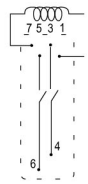


CUP V 1A

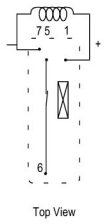
UP E/CUP V 2A/1B/1A(Latch)



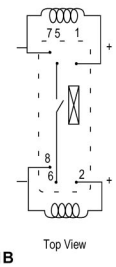
CUP E 2A



CUP E 1B

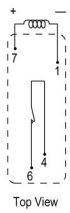


CUP E 1A(Latch)

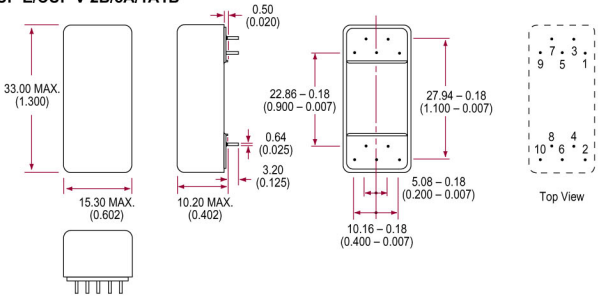


CUP V 2A

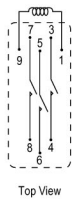
CUP V 1B



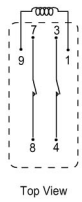
CUP E/CUP V 2B/3A/1A1B



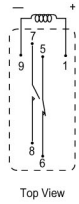
CUP E 3A



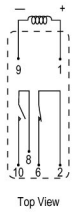
CUP E 2B



CUP E 1A1B



CUP V 1A1B



Note: Relays with Switch 5 option must be mounted vertically ±30º.

CUP V

All parameters are at 25°C unless otherwise stated.

Parameters	Conditions	Switch Type 1 DYAD Min	Typ	Max	Switch Type 6 High Perfomance MYAD Min	Typ	Max	Units
Contact Ratings								
Switching Voltage	Max DC/PeakAC Resistive			200			500	Volts
Switching Current	Max DC/PeakAC Resistive			0.75			2	Amps
Carry Current	Max DC/PeakAC Resistive			2			3	Amps
Contact Rating	Max DC/PeakAC Resistive			10			50	Watts
Life Expectancy	Signal Level 1.0V 10mA	300	500		200	300		x10^6 Ops
	Rated Loads[1]							x10^6 Ops
Static Contact Resistance	50mV, 10mA			200			100	mOhms
Contact Material			Ru			Hg		
Hg Content			N/A			16		mgrams
Relay Specifications								
Insulation Resistance	Across Open Contacts	10^{10}			10^8			Ohms
	Contact to Coil	10^{10}			10^{10}			Ohms
Capacitance	Across Open Contacts		1.3	2.5		1.5	2	pF
	Open Contact to Coil		3.75	5		3.5	3.8	pF
	Closed Contact to Coil		4	5.5		7.5	8	pF
Dielectric Strength	Between Contacts	350			1400			VDC/Peak
	Contacts to Coil	5600			5600			VDC/Peak
Operate Time (no bounce)	At Nominal Coil Voltage		0.55	1		1.6	2.7	ms
	10Hz Square Wave							
Release Time	Zener-Diode Suppression		0.6	1		1.4	1.75	ms
Enviromental Ratings								
Storage Temperature		-40		+105	-40		+105	°C
Operating Temperature		-40		+85	-38		+75	°C
Soldering Temperature	Applied to pins, 5sec. max			+260			+260	°C
Vibration Resistance (survival)	10Hz - 500Hz						10	Gs
	5Hz - 2000Hz (Sw type 1)			20				Gs
Shock Resistance (survival)	11+/- 1ms, 1/2 Sine Wave			50			30	Gs
Weight			8			6.5		grams
Weight (2A2B/5A)			15.8			13.8		grams

[1]Consult factory for life requirements

COIL SPECIFICATIONS

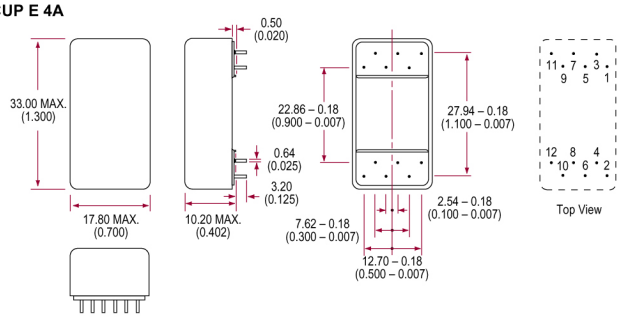
	Contact Form	Coil Voltage			Coil Resistance			Operate Voltage			Release Voltage		
Units		Volts			Ohms			Volts			Volts		
Conditions					+/- 10% (25°C)			Must operate by (25°C)			Must release by (25°C)		
Part #		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max
CUPE011A105	1 Form A		5	12	126	140	154			3.5	0.28		
CUPE001A112	1 Form A		12	29	769	855	940			8.4	0.7		
CUPE001A124	1 Form A		24	57	2956	3285	3613			16.8	1.4		
CUPE002A105[1]	1 Form A		5	9	63	70	77			3.5	0.25		
CUPE002A112	1 Form A		12	23	400	445	489			8.4	0.65		
CUPE002A124	1 Form A		24	45	1530	1700	1870			16.8	1.30		
CUPE001A505	1 Form A		5	11	94	105	115			3.5	0.5		
CUPE001A512	1 Form A		12	26	558	620	682			8.4	1.2		
CUPE001A524	1 Form A		24	39	1260	1400	1540			16.8	1.9		
										3.5			
CUPE002A505[2]	1 Form A		5	9	63	70	77			8.4	0.5		
CUPE002A512	1 Form A		12	23	378	420	462			16.8	1.3		
CUPE002A524	1 Form A		24	35	972	1080	1188				2.2		
										3.5			
CUPE011A605[3]	1 Form A		5	12	126	140	154			9	0.5		
CUPE001A612	1 Form A		12	29	900	1000	1100			18	1.4		
CUPE001A624	1 Form A		24	57	2070	2300	2530				2.2		
										3.5			
CUPP002A605	1 Form A		5	9	99	110	121			9	0.6		
CUPP002A612	1 Form A		12	23	540	600	660			18	1.5		
CUPP002A624	1 Form A		24	45	1440	1600	1760				2.3		

[1]Other contact forms available: 1A, 2A, 3A, 4A, 5A, 1B, 2B, 1A1B, 2A2B, 1L(Latch)
[2]Other contact forms available: 1A, 2A, 3A, 5A, 1B
[3]Other contact forms available: 1A, 2A, 3A, 4A, 5A, 1B

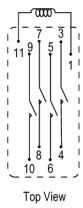
MECHANICAL DIMENSIONS

DIMENSIONS
mm
(inches)

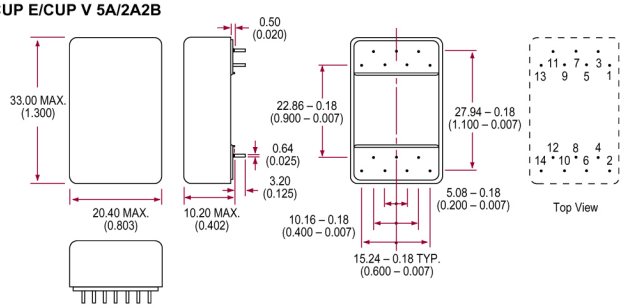
CUP E 4A



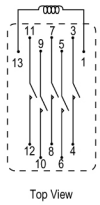
UP E 4A



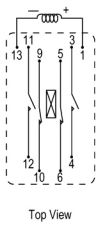
CUP E/CUP V 5A/2A2B



CUP E 5A



UP E 2A2B



CUP V 2A2B