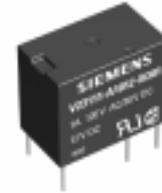


**PCB relay for DC operation,
neutral, monostable**

Features

- Miniaturized universal relay for a wide variety of switching functions
- Optimized for a minimum space on the printed circuit board
- Extremely compact structure
- Low coil power requirement for IC compatibility



ECR1875-9

Approx. 1.5 x original size

Typical applications

- Communication peripherals
- Telecommunications terminal and accessories
- Control equipment
- Security applications
- Video recording equipment

Version

- Monostable, 1 winding
- With 1 changeover contact
- Gold overlay silver nickel alloy contacts
- For printed circuit assembling
- Plastic case
- Immersion cleanable

Approvals



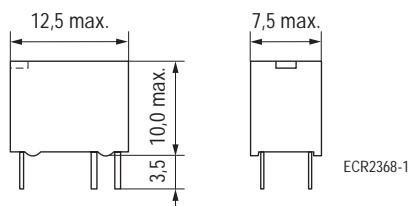
CSA

File LR 48471

UL

File E 82292

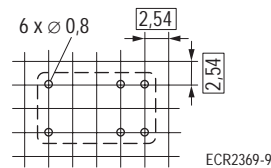
Dimension drawing (in mm)



ECR2368-1

Mounting hole layout

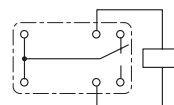
View on the terminals



ECR2369-9

Terminal assignment

View on the terminals



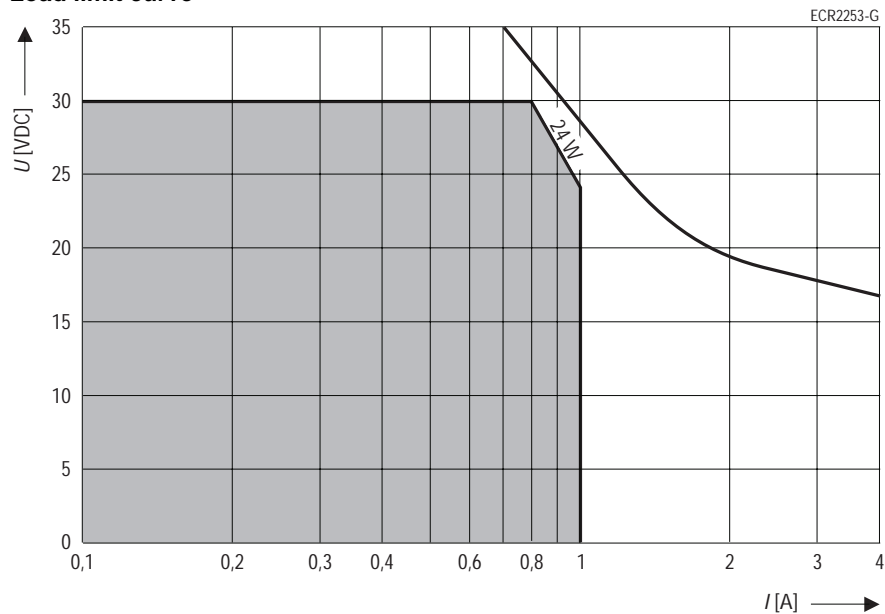
ECR2370-C

Basic grid 2.54 mm according to EN 60097 and DIN 40803

Miniature Relay P1n

Contact data	
Number of contacts and type	1 changeover contact
Contact assembly	single contact
Contact material	gold overlay silver nickel alloy
Limiting continuous current at max. ambient temperature	1 A
Maximum switching current	1 A
Maximum switching voltage	120 VAC 30 VDC
Maximum switching capacity	
AC voltage	120 VA
DC voltage	24 W
Contact resistance (initial value) / measuring current / driver voltage	≤ 50 mΩ / 100 mA / 6 VDC

Load limit curve



I = switching current

U = switching voltage

■ = recommended application field

Load limit curve:

Quenching of the arc during the transit time

Miniature Relay P1n

Coil data	
Nominal voltages	from 3 VDC to 24 VDC
Nominal power consumption, typ.	150 mW
Operative range/pick-up class according to EN 61810-1 / IEC 61810-1	1 / a
Maximum operating voltage	≤ 75 % of the nominal voltage
Maximum release voltage	≥ 5 % of the nominal voltage

Coil versions					
Nominal voltage U_{nom}	Operating current	Operating voltage range at 20 °C		Resistance at 20 °C	Coil number Ordering code
		Minimum voltage U_I	Maximum voltage U_{II}		
VDC	mA	VDC	VDC	Ω	
3	50.0	2.25	6.61	60 ± 6	03
5	30.0	3.75	10.98	166 ± 16.6	05
6	25.0	4.50	13.22	240 ± 24	06
9	16.7	6.75	19.83	540 ± 54	09
12	12.5	9.00	26.44	960 ± 96	12
24	6.3	18.00	52.89	3840 ± 384	24

U_I = Minimum voltage at 20 °C with nominal voltage without contact current

U_{II} = Maximum continuous voltage

The operating voltage limits U_I and U_{II} are dependent on the temperature according to the formulae:

$$U_{I \text{ t amb}} = k_I \cdot U_{I \text{ 20 °C}} \text{ and}$$

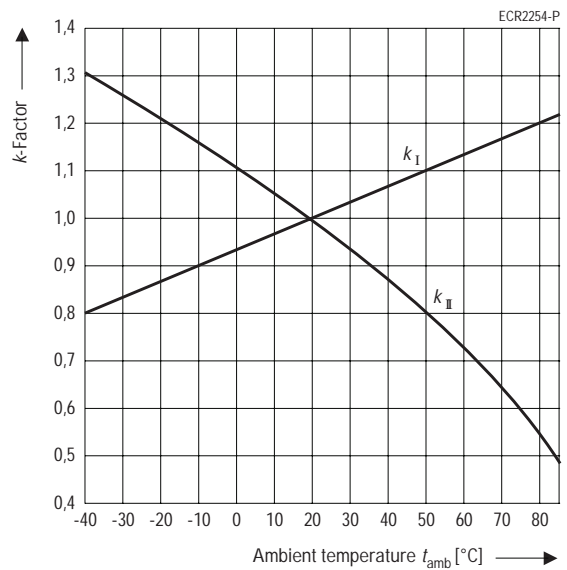
$$U_{II \text{ t amb}} = k_{II} \cdot U_{II \text{ 20 °C}}$$

t_{amb} = Ambient temperature

$U_{I \text{ t amb}}$ = Minimum voltage at ambient temperature t_{amb}

$U_{II \text{ t amb}}$ = Maximum voltage at ambient temperature t_{amb}

k_I a. k_{II} = Factors (dependent on temperature), see diagram



Miniature Relay P1n

General data	
Operate time at U_{nom} and at 20 °C	5 ms
Release time at U_{nom} and at 20 °C	5 ms
Maximum switching rate without load	10 operations/s
Ambient temperature range according to EN 61810-1-00 / IEC 61810-1-00 and VDE 0435 part 201	-40 °C ... +85 °C
Thermal resistance	140 K/W
Maximum permissible coil temperature	115 °C
Vibration resistance Frequency range according to EN 60068-2-6 / IEC 60068-2-6	10 ... 55 Hz, 1.5 mm double amplitude (function)
Shock resistance, half sinus, 11 ms according to EN 60068-2-27 / IEC 60068-2-27	10 g (function) 50 g (damage)
Degree of protection according to EN 60529 / IEC 60529 / VDE 0470 part 1	immersion cleanable, IP 67
Electrical endurance at 20 °C	1×10^5 operations
Mechanical endurance	5×10^7 operations
Mounting position	any
Processing information	ultrasonic cleaning is not recommended
Weight	approx. 3 g

Insulation	
Insulation resistance at 500 V	$\geq 10^8 \Omega$
Dielectric test voltage (1 min) contact / coil at open contact	1500 VAC _{rms} 400 VAC _{rms}
Surge voltage resistance to FCC 68.302 contact – coil (10 / 160 μ s)	1500 V

Ordering code

V 2 3 1 1 1 – A 1 0 – B 3 0 1

Termination
A10 = Sensitive (150 mW)

Coil number
03 = 3 VDC nominal voltage
05 = 5 VDC
06 = 6 VDC
09 = 9 VDC
12 = 12 VDC
24 = 24 VDC

Contact assembly / material
B301 = 1 changeover contact / gold overlay silver nickel alloy

Ordering example: V23111-A1005-B301
Miniature Relay P1n, 5 VDC nominal voltage