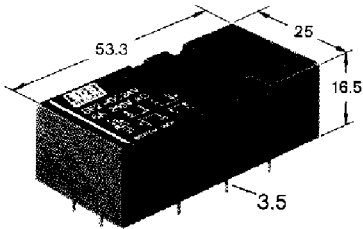


NAIS

POLARISED, MONOSTABLE SAFETY RELAY WITH FORCED OPERATION CONTACTS COMPLYING WITH ZH1/457

SF2-RELAYS



Tolerance ± 0.3
Weight approx 37 g

- Creepage distances and airgaps:
Contact/Contact C = 4.7 mm, A = 4.3 mm
Contact/Coil C = 4.6 mm, A = 4.4 mm
- As per VDE 0110
Contamination level 3/250 V
Overvoltage category III/300 V
- Degree of protection IP67 (washable)
- TÜV test, no. 945/EL181/93
SEV approval, no. 92.1 10714.05
SUVA no. 5454

Characteristics		
Contact configuration (a = Normally open, b = Normally closed)		2a2b
Volumetric resistance (at 6 Vdc, 1 A new condition)	m Ω	- / < 30
Max. make-/rated-/break current	A	20/10/6
Max. switched voltage	V	440
Max. switched load (resistive load, 1)	W (VA)	150 (1500 ²)
Min. switched voltage/switching current	V/mA	10/10
Pick-up/nominal power consumption at 20°C	mW	280/500
Pick-up/drop-out voltage in % of nominal voltage at 20°C		75/10
Pick-up/drop-out /bounce time (approx. values at U _{rated})	ms	17/7/2
Max. switching frequency	Hz	10
Operational life mechanical	Sw.ops	10 ⁷
Permissible ambient temperature at rated power consumption	°C	-40/+70
Upper temperature limit	°C	105
Thermal resistance (max. packing density)	K/W	see Thermal Loading capability
Test voltage open contact/contact-contact/coil-coil	V _{rms}	2500
Insulation resistance at 500 Vdc (new condition)	Ω	10 ⁹
Shock resistance (11 ms), Vibration resistance ³⁾	g, g/Hz	30, 10/10-55
Degree of protection		IP67/IP30 ²⁾

1) at 10⁵ switching operations, ambient temperature +70°C
2) with breather hole; 3) Contact interruption <10 μ s

Electrical operational life					
Switched voltage	Switched current	Switched load	Load type	Switching freq.	No. of sw.ops. ⁴⁾
250 VAC	8.00 A	2000 VA	cos ϕ = 1	0.2 Hz	30.000
220 VAC	6.82 A	1500 VA	cos ϕ = 1	0.2 Hz	100.000
220 VAC	5.11 A	1125 VA	cos ϕ = 0.6	0.2 Hz	100.000
220 VAC	4.43 A	975 VA	cos ϕ = 0.35	0.2 Hz	100.000
220 VAC	2.27 A	500 VA	cos ϕ = 1	0.2 Hz	300.000
220 VAC	1.70 A	375 VA	cos ϕ = 0.6	0.2 Hz	300.000
220 VAC	1.45 A	320 VA	cos ϕ = 0.35	0.2 Hz	300.000
30 VDC	2.00 A	60 W	resistive	0.5 Hz	2 Mio.
60 VDC	0.05 A	3 W	L/R = 28 ms	0.5 Hz	2 Mio.
10 VDC	0.01 A	0.1 W	resistive	0.5 Hz	2 Mio.

⁴⁾ at ambient temperature of +70°C

Ordering Information / Coil data					
Part-number	Coil nominal voltage (V)	Pick-up voltage (V)	Drop-out voltage (V)	Coil resistance (Ω) $\pm 10\%$ 20°C	Coil inductance (mH)
SF2- 5 V	5	3.75	0.5	50	48
SF2-12 V	12	9	1.2	268	240
SF2-24 V	24	18	2.4	1152	1000
SF2-48 V	48	36	4.8	4608	3300
SF2-60 V	60	45	6.0	7200	6100

