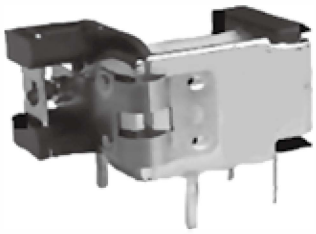
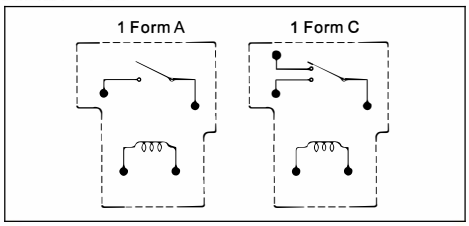
WRG vitec POWER GmbH

R53 Power Relay

- 1 Form A/C
- Rated current: 30 to 40 A
- High capacity, high endurance
- Various Mouting Methods
- Multiple pin structures
- Class F Coil



R53
1 Form A/C, 30 A, without dust cover



Technical parameters		
Coil data		
Coil input voltage		5/6/9/12/18/24/36/48 V DC
Coil power		D Type: 900 mW
Response voltage		DC: < 75% (Room temp.)
Drop out voltage		DC: > 5% (Room temp.)
Operation time / Release time		Less than 15 ms / less than 10 ms
Contact data		
Contact numbers		1 Form A/C
Contact material		Ag alloy
Max. switching voltage		250 V AC
Max. swiching power		11,080 VA
Contact ratings		1Form A: 30 A 250 V AC, 1Form C: N.O. 30 A 240 V AC, N.C. 20 A 240 V AC
Contact resistence		Max. 100 mΩ (1 A / 6 V DC)
Mechanical service life		1×10^7 times
Electrical Service life	AC1	1×10^5 times
General data		
Rated withstand impulse voltage	Coil / Contact	4 kV AC / 1 min
	Between contacts	1 kV AC / 1 min
Surge voltage		4 kV AC (1.2/50 μs)
Insulation Resistance		1,000 MΩ (500 V DC)
Vibration		Malfunction 10~55 Hz (Amplitude1.5 mm) Endurance 10~55 Hz (Amplitude1.5 mm)
Shock		Malfunction 98 m/s², Endurance 980 m/s²
Ambient temperature (Operation)		-40~85 ℃ (No condensation)
Operating humidity		20~85%
Dimension L×W×H (mm)		27.5×24.1×14.9
Enclosure type		Without dust cover
Mounting		PCB
Weight (g)		25
Compliance certification number		cULus:E341569, TUV:R50281254, CQC:CQC14002112000

Type designation

Model designation	Number of poles	Coil voltage	Coil type	Contact configuration	Insulation class	COM Terminal type	Suspension type	Enclosure type	Special request
R53	-1	12	D	M	F	-1	-P	-S	-XXX
R53: Standard (Without Dust Cover) R53G: Standard (With Dust Cover)	1: 1 pole	DC: 5V, 9V, 12V, 24V, 36V, 48V	D: DC (900 mW)	M: 1 Form A Blank: 1 Form C	Blank: class A F: class F	1: one COM Terminal (No co-terminal between the Coil Terminals)	Blank: Standard P: Rated voltage: 24 V DC, Suspension voltage: 16 V DC	Blank: Standard S: sealed	335: Stands for product in accordance with IEC 60335-1(GWT)

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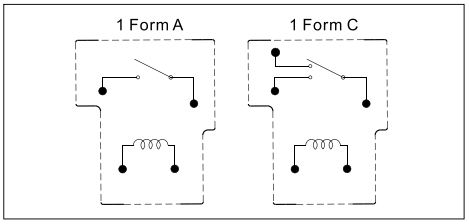
R53G
1 Form A/C, 40 A, sealed type

SSA approval rating			
cULus			
1formA	20A/277VAC, 20A/30VDC, 30A/30VDC, 40A/277VAC, 15A/277VAC (Resistive)		
FLA	12A/250VAC 2HP (HP)		
	16A/125VAC 1HP (HP)		
	16.0FLA/96.0LRA 240VAC (Resistive)		
1formB	15A/277VAC, 10A/30VDC, 15A/30VDC, 8A/277VAC (Resistive)		
FLA	4.9A/250VAC 1/2HP (HP)		
	5.8A/125VAC 1/4HP (HP)		
	10.0FLA/58.0LRA 240VAC (Resistive)		
1formC	NO/NC:11.2FLA/67.2LRA, 10.3FLA/61.8LRA (Resistive) NO/NC:19.8A/277VAC, 30A/240VAC 30A/277VAC (Resistive)		
TUV			
1formA	30A/250VAC	85 ℃	10,000ops
	20A/30VDC	85 ℃	50,000ops
	10A/30VDC	85 ℃	100,000ops
1formB	10A/250VAC	85 ℃	10,000ops
	10A/30VDC	85 ℃	50,000ops
	8A/30VDC	85 ℃	100,000ops
1formC	NO:30A/NC:10A/250VAC	85 ℃	10,000ops
	NO:20A/NC:10A/30VDC	85 ℃	50,000ops
	NO:10A/NC:8A/30VDC	85 ℃	100,000ops
CQC			
1formA	30A/240VAC	85 ℃	20,000ops
1formB	20A/240VAC	85 ℃	20,000ops
1formC	NO:30A/NC:20A/240VAC	85 ℃	20,000ops



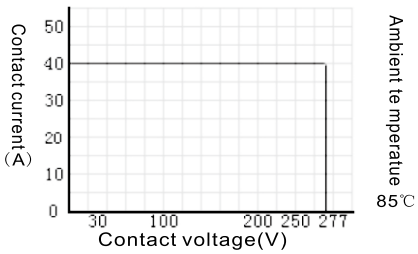
Coil rating (D Type)					
Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω±10%)	Operating power (mW)	Operating voltage (VDC)	Release voltage (VDC)
5	185	27	900	≤3.75	≥0.25
6	150	40	900	≤4.50	≥0.30
9	93	97	900	≤6.75	≥0.45
12	77	155	900	≤9.00	≥0.60
18	47	380	900	≤13.50	≥0.90
24	36	660	900	≤18.00	≥1.20
36	15	1,440	900	≤27.00	≥1.80
48	19	2,560	900	≤36.00	≥2.40

MAX. allowable coil voltage: 130% of rated coil voltage (Room temperature)

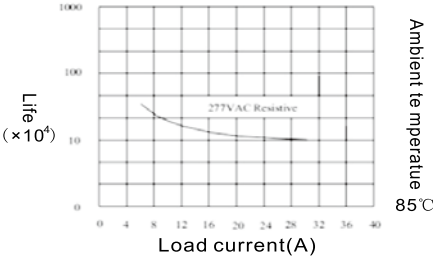
Technical parameters

	5/6/9/12/18/24/36/48 V DC
	D Type: 900 mW
	DC: < 75% (Room temp.), AC: < 80% (Room temp.)
	DC: > 5% (Room temp.), AC: > 30% (Room temp.)
	Less than 15 ms / less than 10 ms
	1 Form A/C
	Ag alloy
	250 V AC
	11,080 VA
	1Form A: 40 A 250 V AC, 30 A 250 V AC, 1Form C: N.O. 30 A 240 V AC, N.C. 20 A 240 V AC
	Max. 100 mΩ (1 A / 6 V DC)
	1×10^7 times
	1×10^5 times
	4 kV AC / 1 min
	1 kV AC / 1 min
	4 kV AC (1.2/50 μs)
	1,000 MΩ (500 V DC)
	Malfunction 10~55 Hz (Amplitude1.5 mm) Endurance 10~55 Hz (Amplitude1.5 mm)
	Malfunction 98 m/s², Endurance 980 m/s²
	-40~85 ℃ (No condensation)
	20~85%
	32.0×27.0×20.0
	Flux-proof, sealed
	PCB
	25
	cULus:E341569, TUV:R50281254, CQC:CQC14002112000

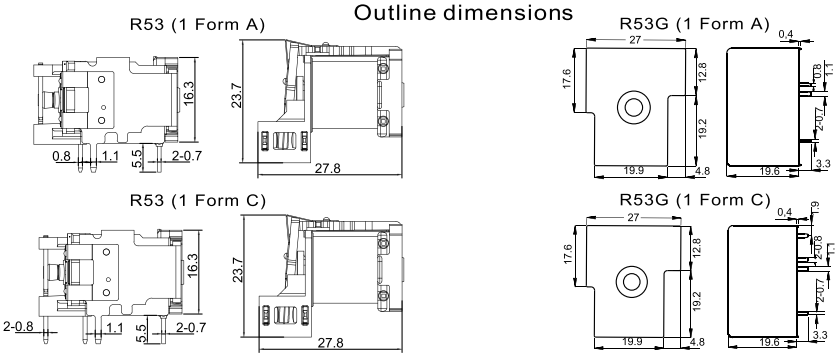
MAX.contact capacity



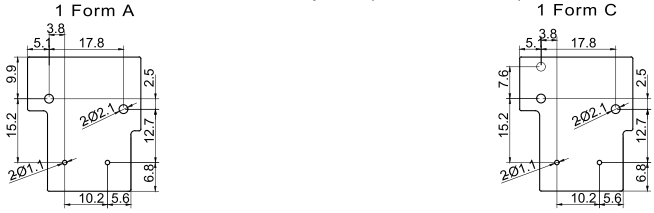
Life curve



Outline dimensions



PCB board layout (Bottom view)



Tolerance	
Outline dimension	
<1mm	±0.2mm
1~5mm	±0.3mm
>5mm	±0.4mm
PCB board layout	
Pitch-row	±0.1mm
Aperture	+0.1mm

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