

Power PCB Relay EF

- 1 pole 20A, 1 form A (NO) contact
- Low height max. 20mm (max. 30mm with quick connect terminal)
- Ambient temperature 85°C
- Electrical endurance of 100Kops. at 20A/250VAC
- #250 Quick connect terminal direction for space saving
- Meet 4000VAC dielectric voltage between coil and contacts
- RoHS compliant (Directive 2002/95/EC)
- UL coil insulation system Class155(F)



Typical applications

Air conditioners, washing machine, dish washer

Approvals

UL File No. E58304, TUV File No. R 50117320
Technical data of approved types on request

Contact Data

Contact arrangement	1 form A (NO) contact	
Rated voltage	250VAC	
Max. switching voltage	250VAC	
Rated current	20A	
Switching power	5000VA	
Contact material	AgSnO	
Min. recommended contact load	100mA, 5VDC (reference data)	
Initial contact resistance	100mΩ at 1A, 6VDC	
Frequency of operation, with/without load	30/300 ops./min	
Operate/release time max.	20/10ms	
Electrical endurance		
20A, 250VAC, resistive, 85°C, 6 ops./min.	100x10 ³ ops.	
80A inrush cosφ=0.7, 0.3s,		
20A steady cosφ = 0.9, 1.2s, 23°C, 20 ops./min.	100x10 ³ ops.	
Contact ratings		
UL&TUV 20A, 250VAC, resistive		
UL 1HP 277VAC, 85°C	30x10 ³ ops.	
TUV 80A inrush cosφ=0.7, 0.3s, 250VAC		
TUV 20A steady cosφ=0.9, 1.2s, 250VAC		
Mechanical endurance, DC coil	5x10 ⁶ operations	

Coil Data

Coil voltage range	5 to 48VDC
Coil insulation system according UL	Class F

Coil versions, DC coil

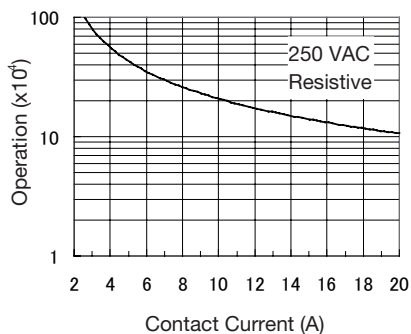
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
005	5	3.75	0.25	28	900
006	6	4.50	0.30	40	900
009	9	6.75	0.45	90	900
012	12	9.00	0.60	160	900
018	18	13.50	0.90	360	900
024	24	18.00	1.20	640	900
048	48	36.00	2.40	2560	900

All figures are given for coil without pre-energization, at ambient temperature +23°C

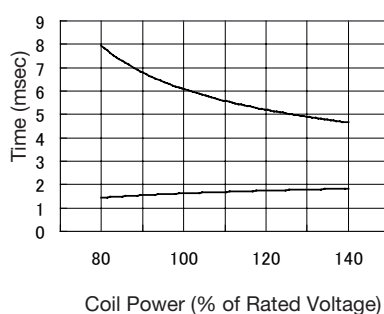
Insulation Data

Initial dielectric strength	
between open contacts	1000VAC 50/60Hz (1 min)
between contact and coil	4000VAC 50/60Hz (1 min)
Initial surge withstand voltage	
between contact and coil	8000V (1.2/50μs)
Initial insulation resistance	
between insulated elements	1000MΩ min. at 500VDC
Clearance/creepage	
between contact and coil	≥6/6mm
Tracking index of relay base	PTI 250

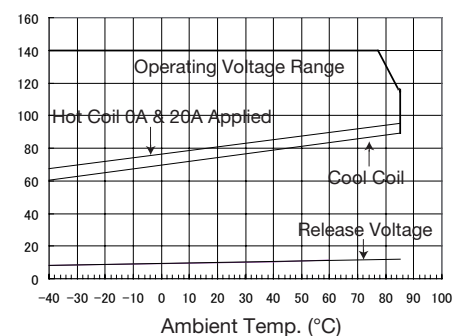
Electrical endurance



Operate time



Coil operative range



Power PCB Relay EF (Continued)

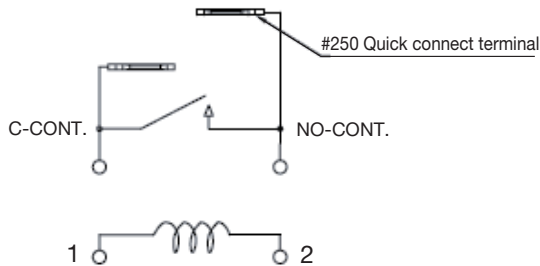
Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter

Ambient temperature	-40°C to + 85°C
Category of environmental protection	IEC 61810
	RTIL-flux proof
Vibration resistance (functional)	10 to 50Hz, 1.5mm double ampl.
Vibration resistance (destructive)	10 to 50Hz, 1.5mm double ampl.
Shock resistance (functional)	IEC 60068-2-27 (half-sine wave of 6ms)
	98m/s ²
Shock resistance (destructive)	half-sine of 11ms, permitted duration 1ms
	980m/s ²
Weight	approx. 18g
Resistance to soldering heat THT	IEC 60068-2-20
	350°C/3.5s
Packaging/unit	tube/20 pcs., box/500 pcs.

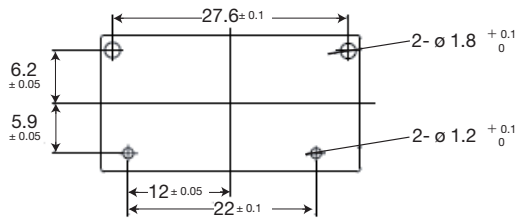
Terminal assignment

Bottom view on solder pins

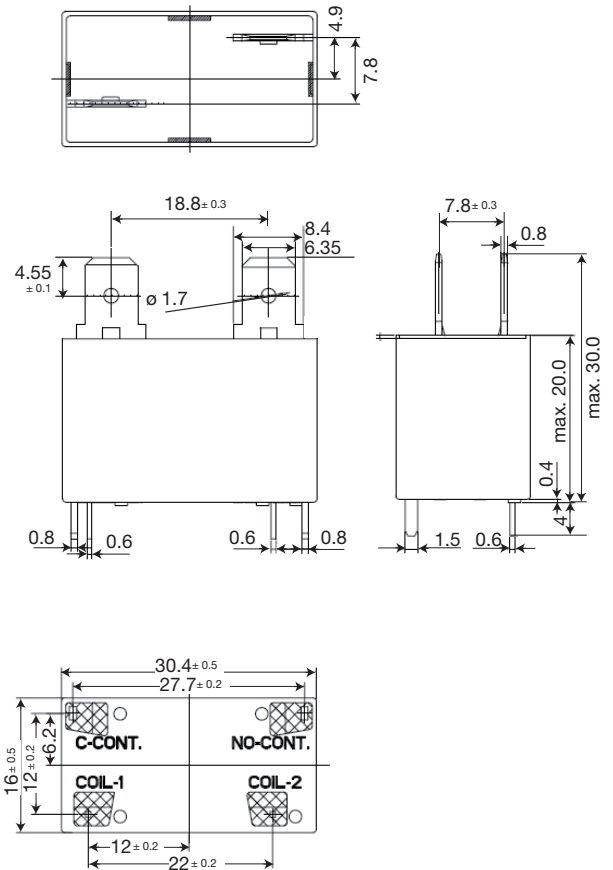


PCB layout

Bottom view on solder pins



Dimensions



Power PCB Relay EF (Continued)

Product code structure	Typical product code	EF	00	-1	A	2	-D	012	-F
Type	Power PCB Relay EF								
Sub-product family	Standard Type								
Poles	1 pole								
Contact arrangement	1 Form A								
Contact material	AgSnO								
Coil version	Standard version								
Coil voltage	Coil code: please refer to coil versions table (e.g. 012=12VDC)								
Enclosure	RTII-flux proof								

Product code	Arrangement	Contact material	Coil	Enclosure	Part number
EF00-1A2-D005-F	1 form A (NO) contact	AgSnO ₂	5VDC	Flux-tight	1649659-1
EF00-1A2-D006-F			6VDC		1649659-2
EF00-1A2-D009-F			9VDC		1649659-3
EF00-1A2-D012-F			12VDC		1649659-4
EF00-1A2-D018-F			18VDC		1649659-5
EF00-1A2-D024-F			24VDC		1649659-6
EF00-1A2-D048-F			48VDC		1649659-7