FT2/FU2 Relay

- **Telecom/signal relay (dry circuit, test access, ringing)**
- **Slim line 15x7.5mm (.59x.295")**
- **Switching current 2A**
- **2 form C bifurcated contacts (2 CO)**
- **High sensitive 24V and 48V coil versions**
- **Meets Telcordia GR 1089, FCC Part 68 and ITU-T K20, ≥ 2500V between coil and contacts**

Typical applications
Communications equipment, linecard application – analog, ISDN, xDSL, PABX, voice over IP, office and business equipment, measurement and control equipment, consumer electronics, set top boxes, HiFi, medical equipment

Approvals

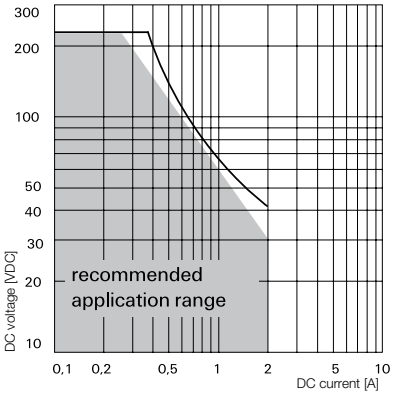
cULus 508 File No. E 111441

Technical data of approved types on request

Contact Data

Contact arrangement	2 Form C (CO)
Max. switching voltage	220VDC, 250VAC
Rated current	2A
Limiting continuous current	2A
Switching power	60W, 62.5VA
Contact material	PdRu, Au covered
Contact style	twin contacts
Min. recommended contact load	100µV/1µA
Initial contact resistance	<50mΩ
Thermoelectric potential	<10µV
Operate time	typ. 3ms, max. 5ms
Release time	
without diode in parallel	typ. 2ms, max. 5ms
with diode in parallel	typ. 4ms, max. 5ms
Bounce time max.	typ. 1ms, max. 5ms
Electrical endurance	
at contact application 0 (≤ 30mV/≤10mA)	min. $2.5x10^6$ operations
cable load open end	min. $2.0x10^6$ operations
resistive, 24V / 1.25A - 30W	min. $1x10^5$ operations
resistive, 30VDC / 2A - 60W	min. $1x10^5$ operations
resistive, 125VDC / 0.24A - 30W	min. $1x10^5$ operations
Contact ratings, UL contact rating	220VDC, 0.24A, 60W 125VDC, 0.24A, 30W 250VAC, 0.25A, 62.5VA 125VAC, 0.5A, 62.5VA 30VDC, 2A, 60W
Mechanical endurance	$100x10^6$ operations

Max. DC load breaking capacity



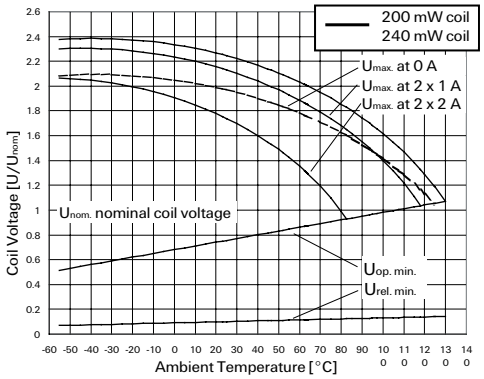
Coil Data

Magnetic system	monostable, non polarized
Coil voltage range	3 to 48VDC
Max. coil temperature	150°C
Thermal resistance	<125K/W

Coil versions, monostable

Coil code	Rated voltage VDC	Operate voltage VDC	Limiting voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
Standard version, monostable						
21	3	2.25	6.80	0.30	45	200
29	4	3.00	9.00	0.40	80	200
22	4.5	3.38	10.10	0.45	101	200
23	5	3.75	11.20	0.50	125	200
24	6	4.50	13.50	0.60	180	200
25	9	6.75	20.30	0.90	405	200
26	12	9.00	27.00	1.20	720	200
27	24	18.00	47.50	2.40	2400	240
28	48	36.00	95.00	4.80	9600	240
High dielectric version, monostable						
91	3	2.25	6.80	0.30	45	200
93	5	3.75	11.20	0.50	125	200
96	12	9.00	27.00	1.20	720	200
97	24	18.00	47.50	2.40	2400	240

All figures are given for coil without pre-energization, at ambient temperature +23°C.
Other coil voltages on request.



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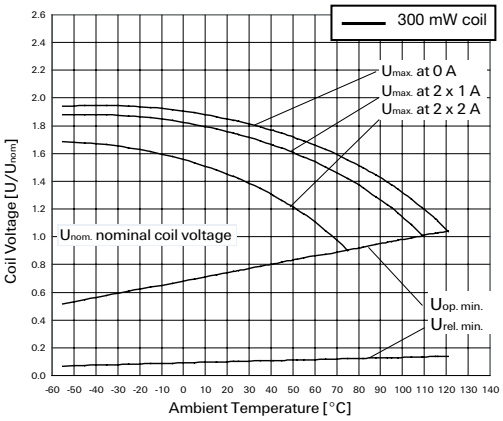
Coil Data (continued)

Coil versions, monostable

Coil code	Rated voltage VDC	Operate voltage VDC	Limiting voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
High dielectric Australia version, monostable						
71	3	2.25	5.50	0.30	30	300
73	5	3.75	9.20	0.50	83	300
76	12	9.00	22.10	1.20	480	300

All figures are given for coil without pre-energization, at ambient temperature +23°C.
Other coil voltages on request.



U_{max} upper limit of the operative range of the coil voltage (limiting voltage) when coils are continuously energized
$U_{op\ min}$ lower limit of the operative range of the coil voltage (reliable operate voltage)
$U_{rel\ min}$ lower limit of the operative range of the coil voltage (reliable release voltage)

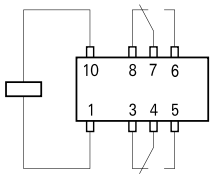
Insulation

Insulation	standard	high dielectric
Initial dielectric strength		
between open contacts	1000V_{rms}	1500V_{rms}
between contact and coil	1500V_{rms}	4000V_{rms}
between adjacent contacts	1500V_{rms}	1800V_{rms}
Initial surge withstand voltage		
between open contacts	1500V	2500V
between contact and coil	2500V	6000V
between adjacent contacts	1500V	2500V
Initial insulation resistance		
between insulated elements	>10^9Ω	>10^9Ω
Capacitance		
between open contacts	max. 4pF	
between contact and coil	max. 1pF	
between adjacent contacts	max. 1pF	
Cross talk at 100MHz/900MHz	-30.6dB/-13.7dB	
Insertion loss at 100MHz/900MHz	-0.02dB/-0.50dB	
Voltage standing wave ratio (VSWR) at 100MHz/900MHz	1.02 / 1.27	

Other Data

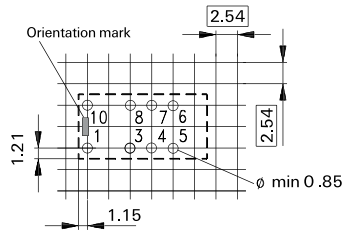
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.tycoelectronics.com/customersupport/rohssupportcenter	
Ambient temperature	-55°C to +85°C
Thermal resistance	<125K/W
Category of environmental protection	
IEC 61810	RT III - immersion cleanable
Degree of protection, IEC 60529	IP 67, immersion cleanable
Vibration resistance (functional)	10g, 10 to 500Hz
Shock resistance (functional), half sinus 11ms	15g
Shock resistance (destructive), half sinus 0.5ms	500g
Weight	max. 3g
Resistance to soldering heat THT	
IEC 60068-2-20	265°C/10s
Resistance to soldering heat SMT	
IEC 60068-2-58	265°C/10s
Moisture sensitive level, JEDEC J-Std-020D	MSL3
Ultrasonic cleaning	not recommended
Packaging/unit	
THT version	tube/50 pcs., box/2000 pcs.
SMT short terminals	reel/500 pcs.,box/2500 pcs.
SMT long terminals	reel/400 pcs.,box/2000 pcs.

Terminal assignment
TOP view on component side of PCB

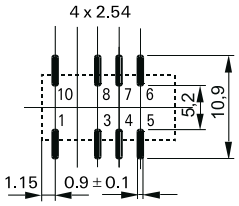


PCB layout
TOP view on component side of PCB

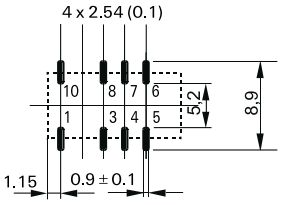
THT version



SMT, long terminals



SMT, short terminals



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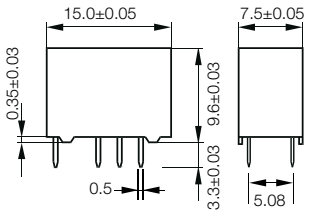
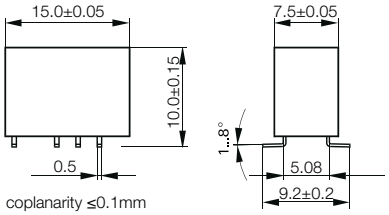
Dimensions

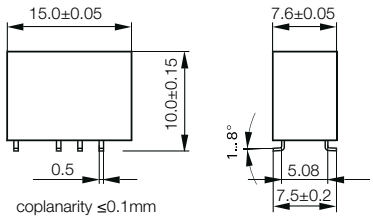
THT version



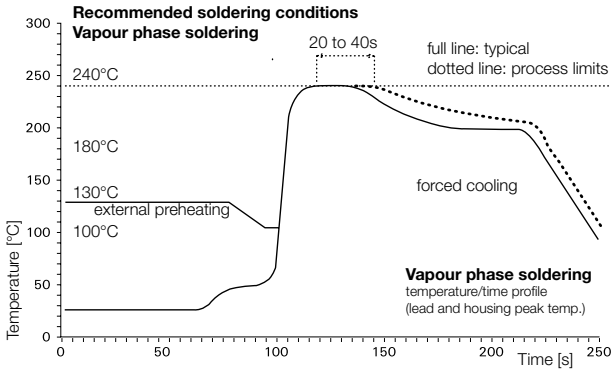
SMT, long terminals

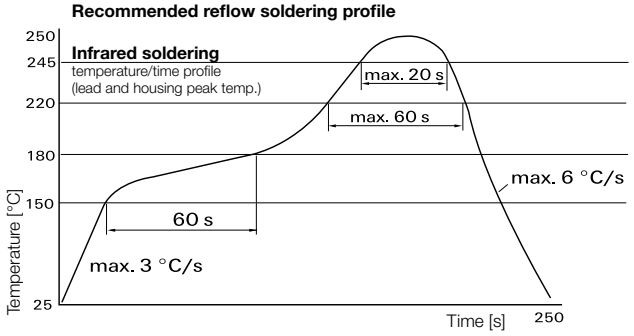


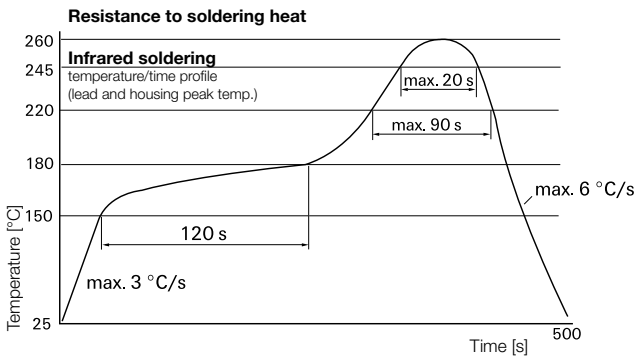
SMT, short terminals



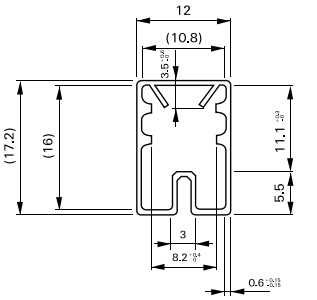
Processing

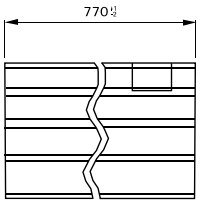


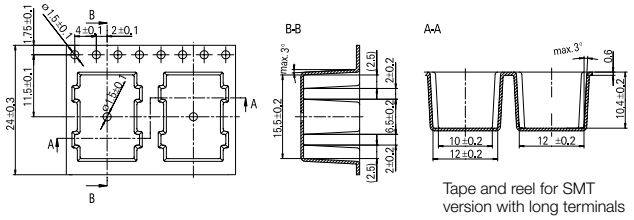


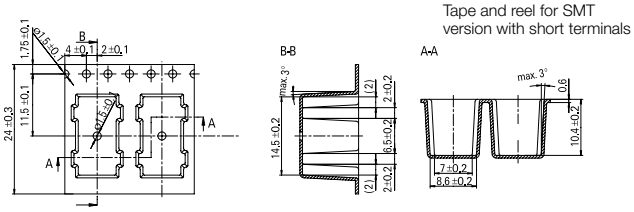


Packing

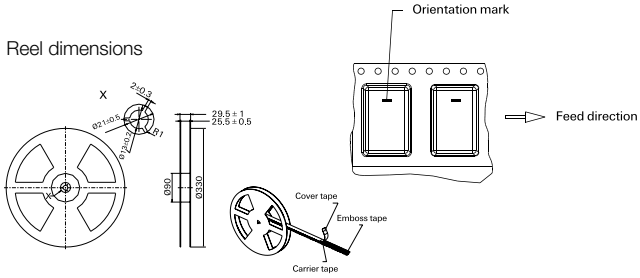








Reel dimensions



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FT2/FU2 Relay (Continued)

Product code structure

Typical product code **D34** **02**

Type

D34 Signal Relays FT2 (THT)
D35 Signal Relays FU2 (SMT)
2 form C, 2 CO

Coil

Coil code: please refer to coil versions table
Performance and coil type
2x Standard version, monostable
9x High dielectric version, monostable
7x High dielectric, Australia version, monostable (SMT version only)

Terminals

Blank THT, Standard version
N SMT, short pins
W SMT, long pins

Product code	Arrangement	Perf. type	Coil type	Coil	Terminals	Part number
D3421	2 form C (2 CO)	Standard	Monostable	3VDC	THT	1462035-9
D3429				4VDC		1-1462035-9
D3422				4.5VDC		1-1462035-0
D3423				5VDC		1-1462035-1
D3424				6VDC		1-1462035-2
D3425				9VDC		1-1462035-3
D3426				12VDC		1-1462035-4
D3427				24VDC		1-1462035-7
D3428				48VDC		1-1462035-8
D3521N	2 form C (2 CO)	Standard	Monostable	3VDC	SMT short	1-1462036-7
D3529N				4VDC		3-1462036-0
D3522N				4.5VDC		1-1462036-9
D3523N				5VDC		2-1462036-1
D3524N				6VDC		2-1462036-3
D3525N				9VDC		2-1462036-5
D3526N				12VDC		2-1462036-7
D3527N				24VDC		2-1462036-9
D3528N				48VDC		9-1462036-3
D3521W	2 form C (2 CO)	Standard	Monostable	3VDC	SMT long	1-1462036-8
D3529W				4VDC		3-1462036-1
D3522W				4.5VDC		2-1462036-0
D3523W				5VDC		2-1462036-2
D3524W				6VDC		2-1462036-4
D3525W				9VDC		2-1462036-6
D3526W				12VDC		2-1462036-8
D3527W				24VDC		9-1462036-1
D3528W				48VDC		9-1462036-5
D3491	2 form C (2 CO)	High dielectric	Monostable	3VDC	THT	2-1462035-0
D3493				5VDC		1-1462035-5
D3496				12VDC		2-1462035-4
D3497				24VDC		2-1462035-5
D3591N	2 form C (2 CO)	High dielectric	Monostable	3VDC	SMT short	7-1462035-7
D3593N				5VDC		7-1462035-8
D3596N				12VDC		7-1462035-9
D3591W	2 form C (2 CO)	High dielectric	Monostable	3VDC	SMT long	9-1462036-7
D3593W				5VDC		9-1462036-8
D3595W				9VDC		8-1462035-0
D3596W				12VDC		9-1462036-9
D3571N	2 form C (2 CO)	High dielectric Australia	Monostable	3VDC	SMT short	7-1462035-5
D3573N				5VDC		7-1462035-6
D3576N				12VDC		7-1462035-3
D3571W	2 form C (2 CO)	High dielectric Australia	Monostable	3VDC	SMT long	7-1462035-1
D3573W				5VDC		7-1462035-2
D3576W				12VDC		7-1462035-4

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