FX2 Relay

- **Slim line 15x7.3mm (.590x.287")**
- **2 form C bifurcated contacts (2 CO), switching current 2A**
- **High sensitivity for low power consumption, 80mW/140mW**
- **High dielectric characteristic, ≤1800Vrms between open contact**
- **High surge capability (1.2/50µs and 10/700µs) meets Telcordia GR 1089 and FCC Part 68, ≤2500V between open contacts, ≤3500V between coil and contacts**
- **High mechanical shock, up to 300g functional, up to 1500g survival**
- **Hermetically sealed (RT V)**

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	<70mΩ
Thermoelectric potential	<10µV
Operate time	typ. 3ms, max. 4ms
Release time	
without diode in parallel	typ. 1ms, max. 3ms
with diode in parallel	typ. 3ms, max. 4ms
Set/reset time min.	20ms
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. $5x10^5$ operations
resistive, 30VDC / 2A - 60W	min. $5x10^5$ operations
resistive, 125VDC / 0.24A - 30W	min. $5x10^5$ 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

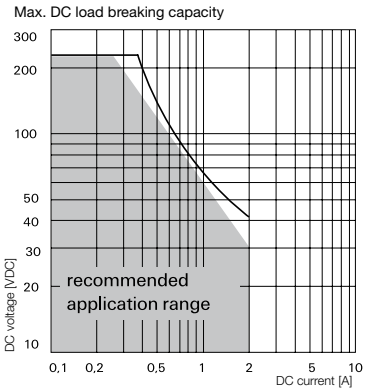
Coil Data

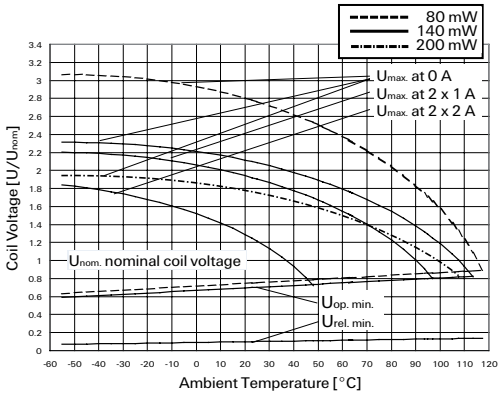
Magnetic system	polarized, monostable, bistable
Coil voltage range	3 to 48VDC
Max. coil temperature	125°C.
Thermal resistance	<165K/W

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, 1 coil						
06	3	2.10	6.30	0.30	64	140
07	4	2.80	8.40	0.40	114	140
04	4.5	3.15	9.40	0.45	145	140
09	5	3.50	10.50	0.50	178	140
05	6	4.20	12.60	0.60	257	140
10	9	6.30	18.90	0.90	574	140
02	12	8.40	25.20	1.20	1028	140
12	24	16.80	42.20	2.40	2880	200
13	48	33.60	68.90	4.80	7680	300
High sensitive version, monostable, 1 coil						
21	3	2.10	8.30	0.30	113	80
22	4.5	3.15	11.10	0.45	353	80
23	5	3.50	12.50	0.50	313	80
24	6	4.20	13.90	0.60	450	80
25	9	6.30	16.70	0.90	1013	80
26	12	8.40	33.40	1.20	1800	80
27	24	16.80	50.40	2.40	4114	140
28	48	36.00	70.00	4.80	8882	260
High dielectric version, monostable, 1 coil						
91	3	2.25	6.3	0.30	45	200
92	4.5	3.15	9.45	0.45	101	200
96	12	8.40	25.2	1.20	720	200

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





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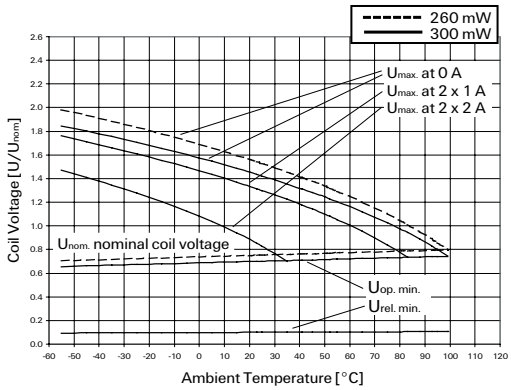
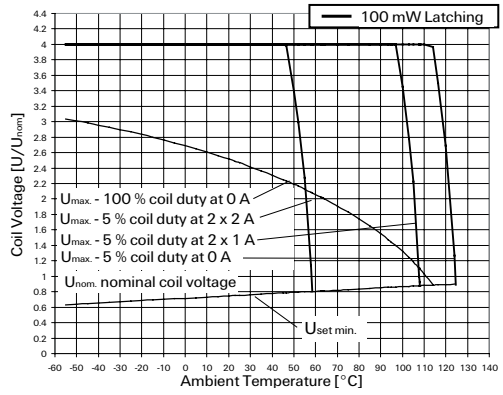
Coil Data (continued)



Coil versions, bistable 1 coil

Coil code	Rated voltage VDC	Set voltage VDC	Limiting voltage VDC	Reset voltage VDC	Coil resistance Ω±10%	Rated coil power mW
Standard, bistable 1 coil						
41	3	2.25	7.50	-2.25	90	100
43	4.5	3.38	11.20	-3.38	203	100
44	5	3.75	12.40	-3.75	250	100
45	6	4.50	14.90	-4.50	360	100
46	9	6.75	22.40	-6.75	810	100
47	12	9.00	29.80	-9.00	1440	100
High dielectric version, bistable 1 coil						
62	4.5	3.15	11.20	-3.15	203	100

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

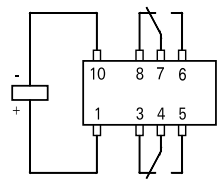


U_{max} upper limit of the operative range of the coil voltage (limiting voltage) when coils are continuously energized
$U_{op\ min}$ lower limit of the operative range of the coil voltage (reliable operate voltage)
$U_{rel\ min}$ lower limit of the operative range of the coil voltage (reliable release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

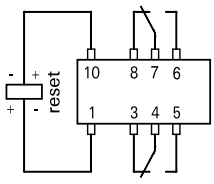
Terminal assignment

TOP view on component side of PCB

Monostable



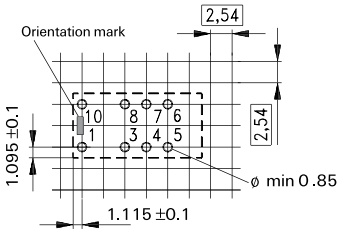
Bistable, 1 coil



Contacts are shown in reset condition.
Both coils can be used as either set or reset coils.
Contact position might change during transportation and must be reset before use.

PCB layout

TOP view on component side of PCB



Insulation

Insulation	standard	high dielectric
Initial dielectric strength		
between open contacts	1800V_{rms}	2100V_{rms}
between contact and coil	1800V_{rms}	4000V_{rms}
between adjacent contacts	1800V_{rms}	2100V_{rms}
Initial surge withstand voltage		
between open contacts	2500V	2900V
between contact and coil	3500V	6000V
between adjacent contacts	2500V	2900V
Initial insulation resistance		
between insulated elements	$>10^9\Omega$	$>10^9\Omega$
Capacitance		
between open contacts	max. 4pF	
between contact and coil	max. 2pF	
between adjacent contacts	max. 2pF	
Cross talk at 100MHz/900MHz	-34.0dB/-15.1dB	
Insertion loss at 100MHz/900MHz	-0.03dB/-0.60dB	
Voltage standing wave ratio (VSWR) at 100MHz/900MHz	1.07/1.45	

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	-40°C to +85°C
Category of environmental protection	
IEC 61810	RT V - immersion cleanable
Degree of protection, IEC 60529	IP 67, immersion cleanable
Vibration resistance (functional)	20g, 10 to 500Hz
Shock resistance (functional), half sinus 11ms	50g
Shock resistance (destructive), half sinus 0.5ms	1500g
Weight	max. 2.5g
Resistance to soldering heat THT	
IEC 60068-2-20	265°C/10s
Resistance to soldering heat SMT	
IEC 60068-2-58	265°C/10s
Ultrasonic cleaning	not recommended
Packaging/unit	tube/50 pcs., box/1000 pcs.

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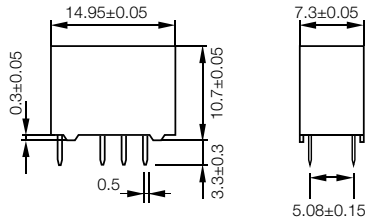
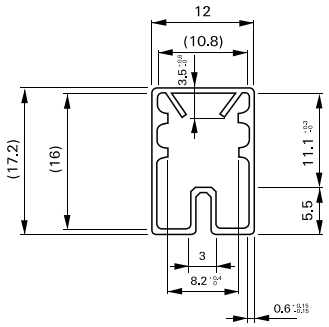
Dimensions



Packing



Product code structure

Typical product code **D32** **04**

Type

D32 Signal Relays FX2
2 form C, 2 CO

Coil

Coil code: please refer to coil versions table
Performance and coil type
0x,1x Standard version, monostable
2x High sensitive version, monostable
4x Standard version bistable
9x High dielectric version, monostable
6x High dielectric version, bistable

Product code	Arrangement	Perf. type	Coil type	Coil	Part number
D3206	2 form C (2 CO)	Standard	Monostable	3VDC	1462034-6
D3207				4VDC	1462034-8
D3204				4.5VDC	1462034-2
D3209				5VDC	1462034-9
D3205				6VDC	1462034-5
D3210				9VDC	1-1462034-3
D3202				12VDC	1462034-1
D3212				24VDC	1-1462034-4
D3213				48VDC	1-1462034-5
D3221	2 form C (2 CO)	High sensitive	Monostable	3VDC	1-1462034-9
D3222				4.5VDC	2-1462034-0
D3223				5VDC	2-1462034-1
D3224				6VDC	2-1462034-2
D3225				9VDC	2-1462034-3
D3226				12VDC	2-1462034-4
D3227				24VDC	2-1462034-5
D3228				48VDC	2-1462034-6
D3241	2 form C (2 CO)	Standard	Bistable	3VDC	2-1462034-8
D3242				4.5VDC	2-1462034-9
D3243				5VDC	3-1462034-0
D3244				6VDC	3-1462034-1
D3245				9VDC	3-1462034-2
D3246				12VDC	3-1462034-3
D3247				24VDC	3-1462034-4
D3291	2 form C (2 CO)	High dielectric	Monostable	3VDC	6-1462034-6
D3292				4.5VDC	6-1462034-8
D3296				12VDC	6-1462034-7
D3262	2 form C (2 CO)	High dielectric	Bistable	4.5VDC	6-1462034-3

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