IM - C Relay

- **Minimum board-space 60 mm²**
- **Slim line 10x6mm (0.39x0.24") and low profile 5.65mm (0.222")**
- **Switching power 60W/62.5VA**
- **Switching voltage 220VDC/250VAC**
- **Switching current 4A**
- **Bifurcated contacts**
- **High mechanical shock resistance**

Typical applications
Telecommunication, access and transmission equipment, optical network terminals, modems, office and business equipment, consumer electronics, measurement and test equipment, industrial control, medical equipment

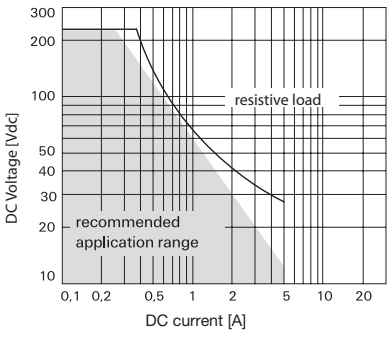
Approvals

UL 508 File No. E 111441
Technical data of approved types on request

Contact Data

	standard	C
	standard version	high dielectric version
Contact arrangement	1 Form C (CO)	
Max. switching voltage	220VDC, 250VAC	
Rated current	4A	4A
Limiting continuous current	3A	3A
Switching power	60W, 62.5VA	
Contact material	PdRu Au covered	
Contact style	twin contacts	
Min. recommended contact load	100µV/1µA	
Initial contact resistance	<50mΩ at 10mA/ 30mV	
Thermoelectric potential	<10µV	
Operate time	typ. 1ms, max. 3ms	
Release time		
without diode in parallel	typ. 1ms, max. 3ms	
with diode in parallel	typ. 3ms, 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, 125VDC / 0.24A - 30W	min. $5x10^5$ operations	
resistive, 220 VDC / 0.27A - 60W	min. $1x10^5$ operations	
resistive, 250VAC / 0.25A - 62.5VA	min. $1x10^5$ operations	
resistive, 30VDC / 1A - 30W	min. $5x10^5$ operations	
resistive, 30VDC / 2A - 60W	min. $1x10^5$ operations	

Max. DC load breaking capacity



Contact Data (continued)

UL contact rating	30VDC, 2A, 60W, NO only 110VDC, 0.3A, 33W 220VDC, 0.27A, 60W 125VAC, 0.5A, 62.5W 250VAC, 0.25A, 62.5W
Mechanical endurance	10^8 operations

Coil Data

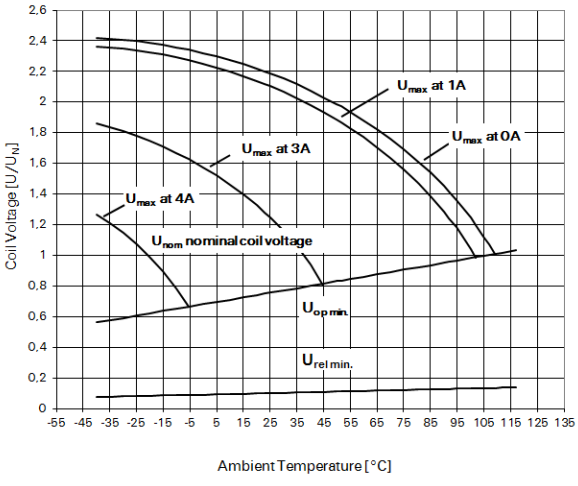
Magnetic system	monostable, bistable
Coil voltage range	1.5 to 24VDC
Max. coil temperature	125°C.
Thermal resistance	<150K/W

Coil versions, standard version, monostable, 1 coil

Coil code	Rated voltage VDC	Operate set voltage min VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
01	3	2.25	0.30	64	140
02	4.5	3.38	0.45	145	140
03	5	3.75	0.50	178	140
06	12	9.00	1.20	1029	140
07	24	18.00	2.40	2880	140

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

Coil operating range, standard version



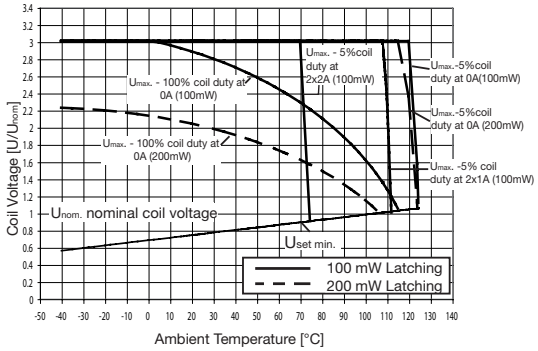
IM - C Relay (Continued)

Coil Data (continued)

Coil versions, bistable 1 coil

Coil code	Rated voltage VDC	Set voltage VDC	Reset Voltage VDC	Coil resistance Ω±10%	Rated coil power mW
41	3	2.25	-2.25	90	100

Coil operating range, bistable 1 coil



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

Insulation	standard* standard version	C* high dielectric version
Initial dielectric strength		
between open contacts	1000V_{rms}	1600V_{rms}
between contact and coil	1800V_{rms}	2200V_{rms}
between adjacent contacts		
Initial surge withstand voltage		
between open contacts	1500V	2200V
between contact and coil	2500V	3000V
Initial insulation resistance		
between insulated elements	>10^9Ω	>10^9Ω
Capacitance		
between open contacts	max. 1pF	
between contact and coil	max. 2pF	
between adjacent contacts	max. 2pF	

*this relay contains SF6 (Sulfur hexafluoride, CAS number: 2551-62-4) for dielectric strength enhancement, SF6 is hermetically sealed in relay without leaks to air during normal application as recommended per the applicable product specification. It is clarified that the usage of SF6 in mini signal relay is not prohibited by related regulations. Please contact TE local sales or field engineer for further information and detailed material declaration.

RF Data

Cross talk at 100MHz/900MHz	-37.0dB/-18.8dB
Insertion loss at 100MHz/900MHz	0.03dB/0.33dB
Voltage standing wave ratio (VSWR) at 100MHz/900MHz	1.06/1.49

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
Thermal resistance	<150K/W
Category of environmental protection	
IEC 61810	RT V - hermetically sealed
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	500g
Weight	max. 0.75g

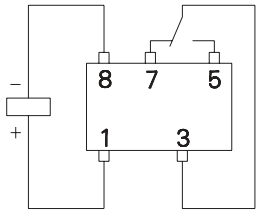
Other Data (continued)

Resistance to soldering heat THT	Peak Value
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 related only to SMT relays packed in orginal dry-packs	MSL3
Ultrasonic cleaning	not recommended
Packaging/unit	
THT version	tube/50pcs., box/1000 pcs.
SMT version	reel/1000 pcs., box/1000 or 5000 pcs.

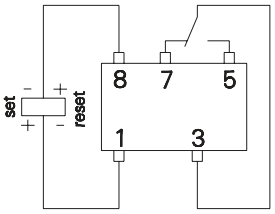
Terminal assignment

TOP view on relay

Monostable version



Bistable version, 1 coil reset condition

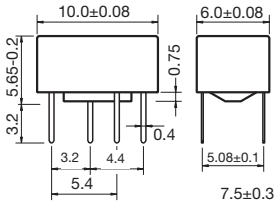


Contacts are shown in reset condition. Contact position might change during transportation and must be reset before use.

Dimensions

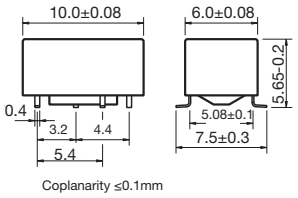
THT version

Standard version



SMT version

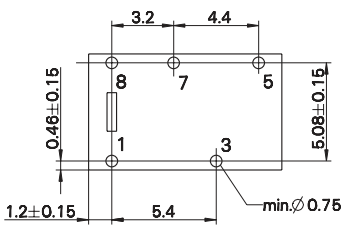
Gull wings



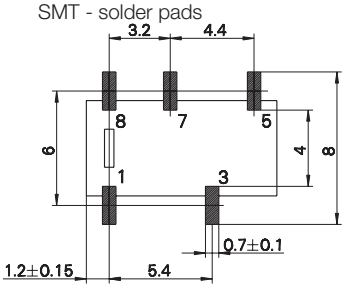
PCB layout

TOP view on component side of PCB

THT mounting holes



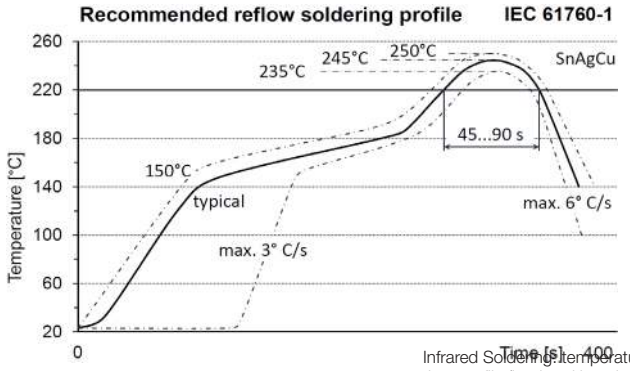
SMT - solder pads



IM - C Relay (Continued)

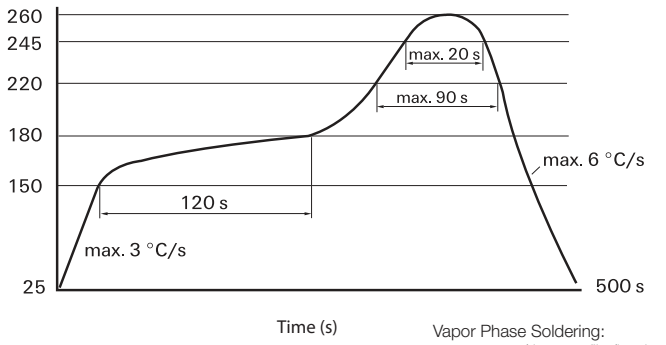
Processing

Recommended soldering conditions



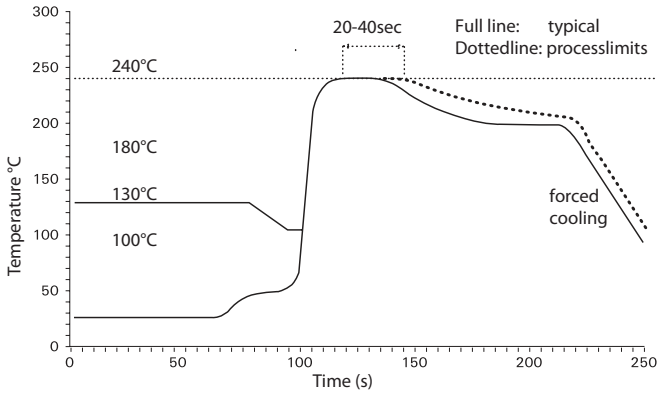
Infrared Soldering temperature/ time profile (lead and housing peak temperature)

Resistance to soldering heat - Reflow profile



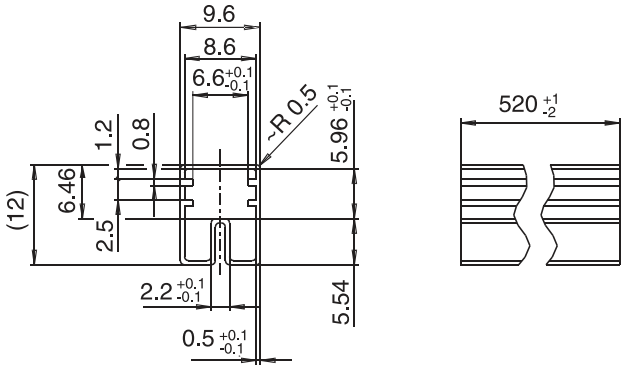
Vapor Phase Soldering: temperature/time profile (lead and housing peak temperature)

Soldering conditions according IEC 60058-2-58 and IPC/JEDEC J-STD-020D

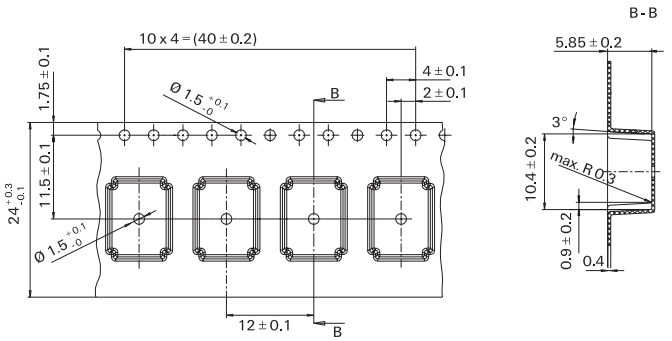


Packing

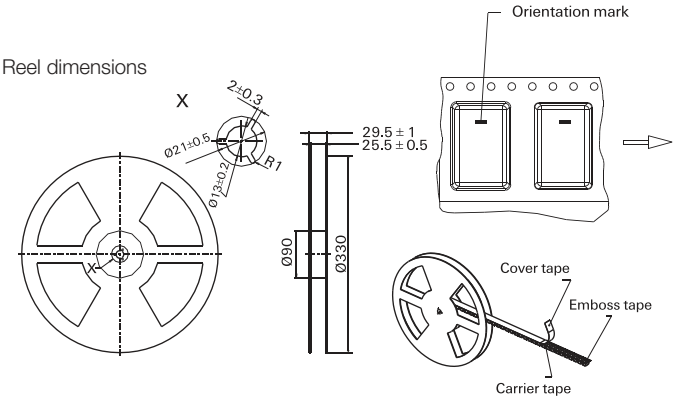
Tube for THT version
50 relays per tube, 1000 relays per box



Tape and reel for SMT version
1000 relays per reel, 1000 or 5000 relays per box



Reel dimensions



IM - C Relay (Continued)

Product code structure	Typical product code	IM	C	03		G	R

Type
IM Signal Relays IM Series IMC

Contact arrangement
C 1 form C, 1 CO

Coil
Coil code: please refer to coil versions table

Performance type
Blank Standard version
C High Dielectric Version

Terminals
T THT - standard
G SMT - gull wing

Packing
S Tube
R Reel

Product code	Arrangement	Perf. type	Coil	Coil type	Terminals	Part number
IMC01GR	1 form C,	Standard	3VDC	Monostable	SMT gull wing	1462042-1
IMC01TS	1 CO				THT standard	1462042-4
IMC02GR	contact		4.5VDC		SMT gull wing	1462042-2
IMC02TS					THT standard	1462042-5
IMC03GR			5VDC		SMT gull wing	1462042-8
IMC03TS					THT standard	1462042-7
IMC06GR			12VDC		SMT gull wing	1462042-3
IMC06TS					THT standard	1462042-6
IMC07GR			24VDC		SMT gull wing	1-1462042-1
IMC07TS					THT standard	1-1462042-2
IMC02CGR		High dielectric	4.5VDC		SMT gull wing	1-1462042-0
IMC06CGR			12VDC			1462042-9
IMC06CTS					THT standard	1-1462042-4
IMC41CTS			3VDC	Bistable		1-1462042-3