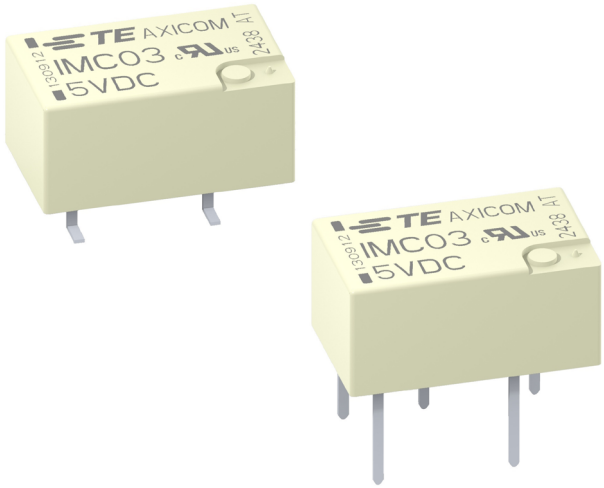
AXICOM IM - C RELAY

SIGNAL RELAYS

INTRODUCTION

TE Connectivity (TE)'s Axicom IM-C signal relays, as part of our smallest types of relays, offer a wide range of variations suitable for many applications. The IM-C series are equipped with a Change Over contact (1 form C), available as high dielectric or high load version.



FEATURES

- Minimum board-space 60 mm^2
- Slim line 10x6 mm (0.39x0.24") and low profile 5.65 mm (0.222")
- Switching power 60W/62.5 VA
- Switching voltage 220 VDC/ 250 VAC
- Switching current 4 A
- Quadfurcated contacts for exceptional contacting reliability
- High mechanical shock resistance

APPLICATIONS

- Telecommunication
- Access and transmission equipment
- Optical network terminals
- Modems
- Office and business equipment
- Consumer electronics
- Measurement and test equipment
- Industrial control
- Medical equipment

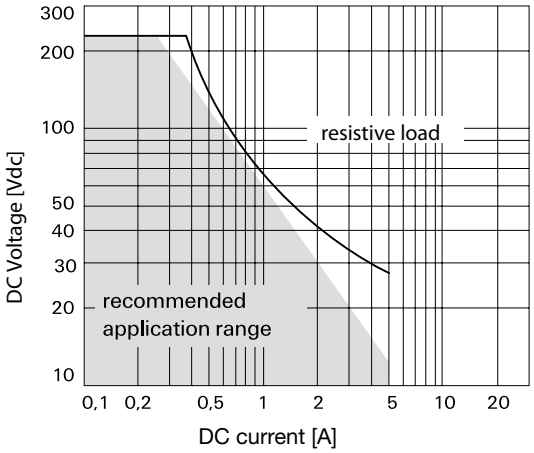
APPROVALS

- UL 61810-1 (former UL 508) File No. E214025

CONTACT DATA

Description	Standard (Standard Version)	C (High dielectric version)
Contact arrangement	1 Form C (CO	
Max. switching voltage	220 VDC, 250 VAC	
Rated current	4 A	4 A
Limiting continuous current	3 A	3 A
Switching power	60 W, 62.5 VA	
Contact material	PdRu Au covered	
Contact style	twin contacts	
Min. recommended contact load	100 µV/ 1 µA	
Initial contact resistance	<50 mΩ at 10 mA/ 30 mV	
Thermoelectric potential	< 10 µV	
Operate time	typ. 1 ms, max. 3 ms	
Release time		
without diode in parallel	typ. 1 ms, max. 3 ms	
with diode in parallel	typ. 3 ms, max. 5 ms	
Bounce time max.	typ. 1 ms, max. 5 ms	
Electrical endurance		
at contact application 0 (≤30 mV / ≤10 mA)	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	
UL contact rating	30 VDC, 2 A, 60 W, NO only 110 VDC, 0.3 A, 33 W 220 VDC, 0.27 A, 60 W 125 VAC, 0.5 A, 62.5 W 250 VAC, 0.25 A, 62.5 W	
Mechanical endurance	min. 10^7 operations	

MAX. DC LOAD BREAKING CAPACITY



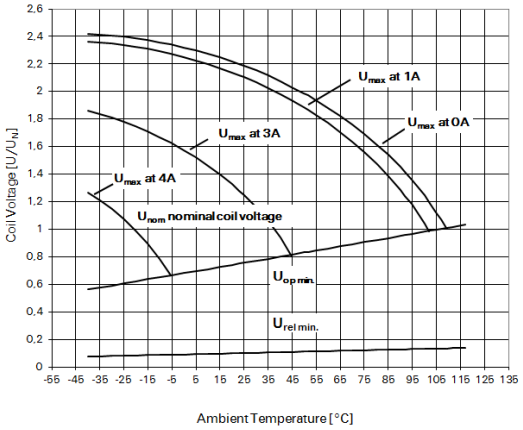
COIL DATA

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

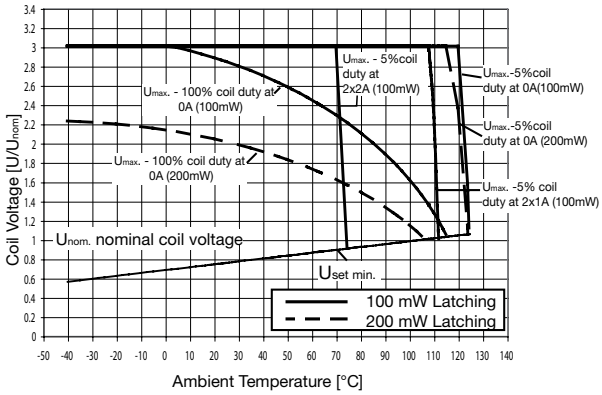
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω ±10 %	Rated coil power mW
Coil versions, Standard version, Monostable, 1 coil					
01	3	2.25	0.30	64	140
02	4.5	3.38	0.45	145	140
03	5	3.75	0.50	178	140
06	12	9.00	1.20	1029	140
07	24	18.00	2.40	2880	140
Coil versions, Bistable, 1 coil					
41	3	2.25	-2.25	90	100

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

COIL OPERATING RANGE, STANDARD VERSION



COIL OPERATING RANGE, BISTABLE 1 COIL



INSULATION

Description	Standard (Standard Version)	C* (High dielectric version)
Initial dielectric strength		
between open contacts	750 Vrms	1600 Vrms
between contact and coil	1800 Vrms	2200 Vrms
between adjacent contacts		
Initial surge withstand voltage		
between open contacts	1500 V	2200 V
between contact and coil	2500 V	3000 V
Initial insulation resistance		
between insulated elements	>10^9 Ω	
Capacitance		
between open contacts	max. 1 pF	
between contact and coil	max. 2 pF	
between adjacent contacts	max. 2 pF	

RF DATA

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

* 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. To ensure the dielectric performance after soldering processes / assembly customer is advised to perform a dielectric test.

OTHER DATA

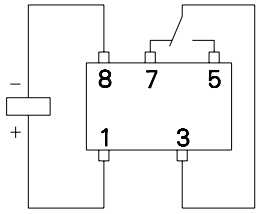
Material compliance	EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at **www.te.com/customersupport/rohssupportcenter**
Ambient temperature	-40 °C ~ +85 °C
Thermal resistance	<150 K/W
Category of environmental protection	
IEC 61810	RT V - hermetically sealed
Degree of protection	
IEC 60529	IP 67, immersion cleanable
Vibration resistance (functional)	20g, 10 ~ 500 Hz
Shock resistance (functional), half sinus 11ms	50 g
Shock resistance (destructive), half sinus 0.5ms	500 g
Weight	max. 0.75 g

Resistance to soldering heat THT	Peak Value
IEC 60068-2-20	265 °C/ 10 s
Resistance to soldering heat SMT	
IEC 60068-2-58	265 °C/ 10 s
Moisture sensitivity level	
JEDEC J-STD-020E	MSL3
MSL related only to SMT relays packed in original dry-packs. Calculated shelf life in sealed bag: 36 months at <40 °C and <90 % relative humidity (RH). Floor life (out of the bag) at assembly site is 168 Hours at ≤30°/ 60% RH.	
Ultrasonic cleaning	Not recomended
Packaging/Unit	
THT version	tube/50pcs., box/1000 pcs
SMT version	reel/1000 pcs., box/1000 or 5000 pcs.

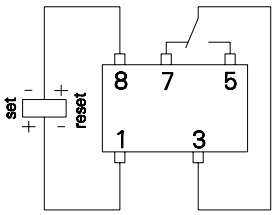
TERMINAL ASSIGNMENT

TOP view on relay

Monostable version



Bistable version, 1 coil reset condition

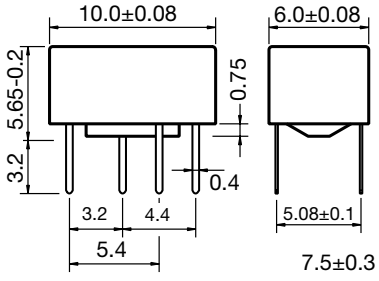


Note:
Contacts are shown in reset condition. Contact position might change during transportation and must be reset before use.

DIMENSIONS (Unit:mm)

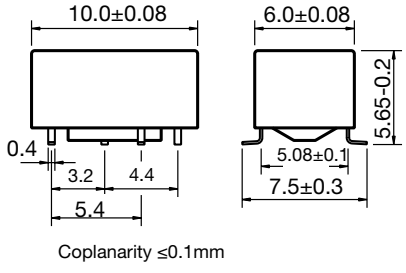
THT VERSION

Standard version



SMT VERSION

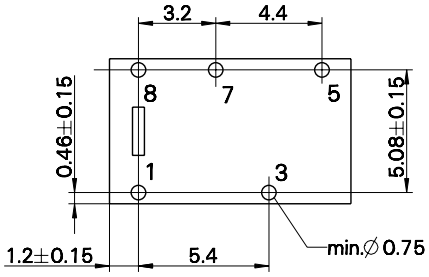
Gull wings



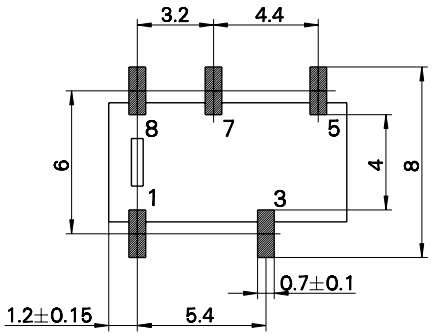
PCB LAYOUT

TOP view on component side of PCB

THT MOUNTING HOLES



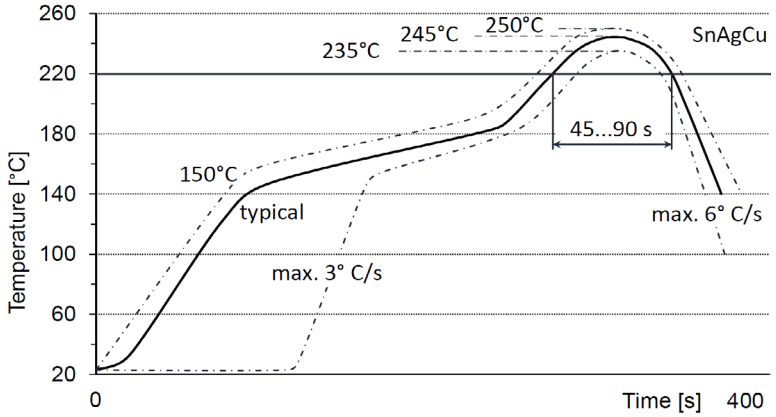
SMT - SOLDER PADS



Customer needs to apply enough solder paste volume / thickness / solder material content to ensure a stable solder joint.

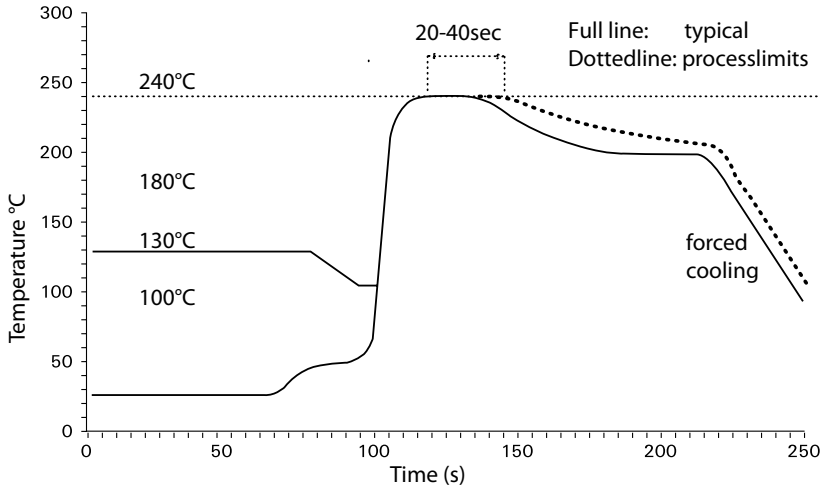
PROCESSING

RECOMMENDED REFLOW SOLDERING CONDITIONS IEC 61760-1



Infrared Soldering: Temperature/ Time profile (lead and housing peak temperature)

RECOMMENDED VAPOR PHASE SOLDERING PROFILE

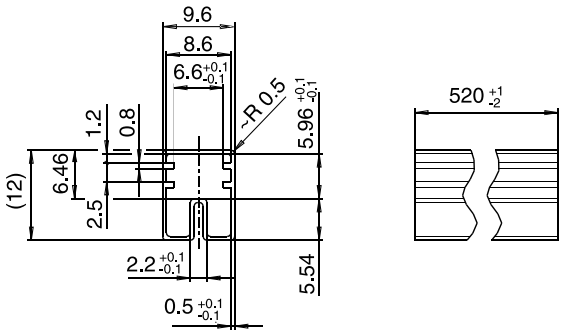


Vapor Phase Soldering: Temperature/ Time profile (lead and housing peak temperature)

PACKING

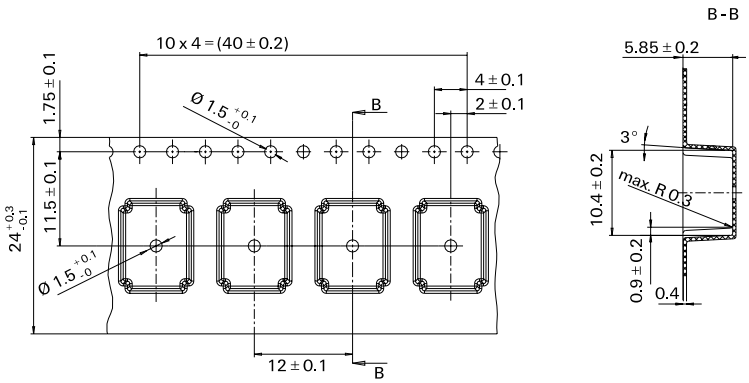
TUBE FOR THT VERSION

50 relays per tube, 1000 relays per box

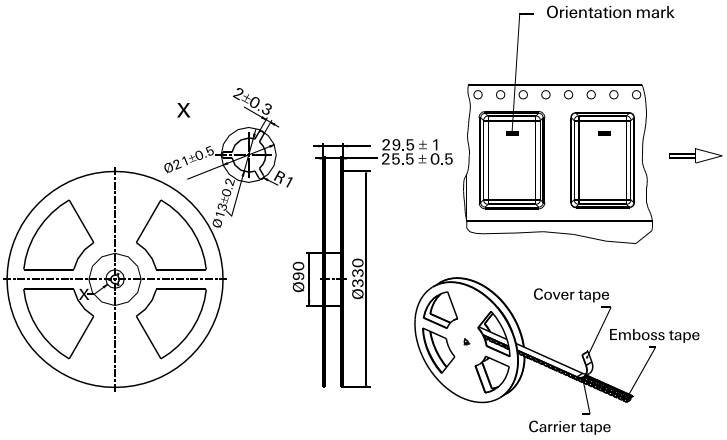


TAPE AND REEL FOR SMT VERSION

1000 relays per reel, 1000 or 5000 relays per box



REEL DIMENSIONS (Unit:mm)



PRODUCT CODE STRUCTURE

Part Number

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

Packing

S	Tube
R	Reel

Terminals

T	THT Version
G	SMT - gull wing

Performance type

Blank	Standard version
C	High Dielectric Version

PRODUCT INFORMATION

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

Notes:

1. Datasheets and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.
2. Datasheets and product data is subject to the terms of the disclaimer and all chapters of the 'Definitions' section, available at **http://relays.te.com/definitions.**
3. Datasheets, product data, 'Definitions' section, application notes and all specifications are subject to change.
4. For general information on Force-Guided-Relays and our portfolio, please visit **http://www.te.com/fgr**.
5. For more detailed product-specific-information (such as B10d values, switching times, etc) please contact our Product Information Center (**https://www.te.com/usa-en/customer-support/customer-service.html**) and ask for the product-specification.

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