

# IM Series AXICOM Signal and Telecom Relays





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UL 508 UL 60950 File No. E 111441

IEC/EN60950 IEC Ref. Cert. No. 3270

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#### **IM Relay**

1 and 2 pole telecom/signal relay, polarized Through Hole Types (THT), standard version with 5.08 mm, narrow with 3.2 mm between the terminal rows or Surface Mount Type (SMT)

Relay Types: non – latching with 1 coil

latching with 1 coil

#### Configurations:

2 pole changeover / DPDT / 2 Form C	IM
2 pole break / DPST NC / 2 Form B	IMD
2 pole make / DPST NO / 2 Form A	IME

1 pole changeover / SPDT / 1 Form C	IMC
1 pole break / SPST NC / 1 Form B	IMA
1 pole make / SPST NO / 1 Form A	IMB

ROHS compliant (Directive 2002/95/EC) as per product date code 0438 / Halogen free

#### **Features**

- Minimum board-space 60 mm<sup>2</sup>
- Slim line 10 x 6 mm, 0.39 x 0.24 inch and
- Low profile 5.65 mm, 0.222 inch
- Switching power 60 W / 62.5 VA
- Switching voltage 220 VDC / 250VAC
- Switching current 2 / 5 A
- Bifurcated contacts
- Low coil power consumption

Latching version

o 100 mW

Non latching version

- o 140 mW standard
- o 100 mW high sensitive version
- o 50 mW ultra high sensitive version
- High dielectric and surge capability (1.2/50 µs and 10/700 µs) meets Telcordia GR1089, FCC Part 68 and ITU-T K20, K21 and K45 requirements
  - o up to 2500 Vrms between open contacts
  - o up to 3000 Vrms between coil and contacts
- Meets 1500 Vrms (high dielectric version) between open contacts as well as Australian clearance requirements
- High mechanical shock resistance up to 300G functional and 500G survival

#### **Typical Applications**

- Telecommunication
  - Access and transmission equipment
  - o Optical Network Terminals
  - o Modems
- Office and business equipment
- Consumer electronics
- Measurement and Test equipment
- Industrial control
- Medical equipment
- Automotive applications

#### Versions

- High Dielectric Version "C" Type
- High Current Version "D" Type
- High Contact Resistance Stability Version "P" Type

#### **Insulation Category**

Supplementary insulation according IEC / EN 60950

Working voltage ≤ 300 Vrms

Mains supply voltage ≤ 250 Vrms

Repetitive peak voltage 2500 V

Pollution degree Internal: 1

External: 2

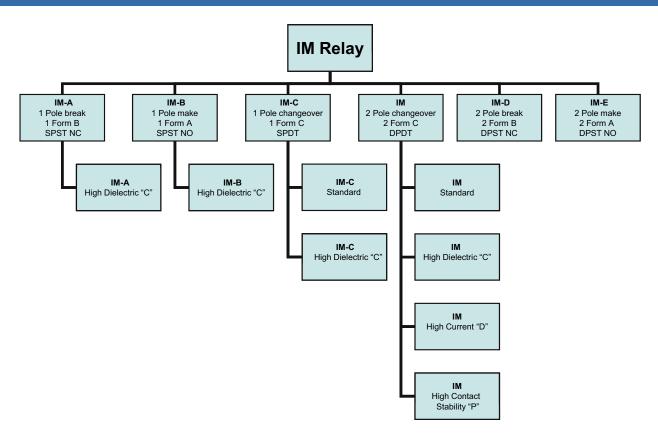
Flammability classification V-0

Maximum operating temperature 85 °C

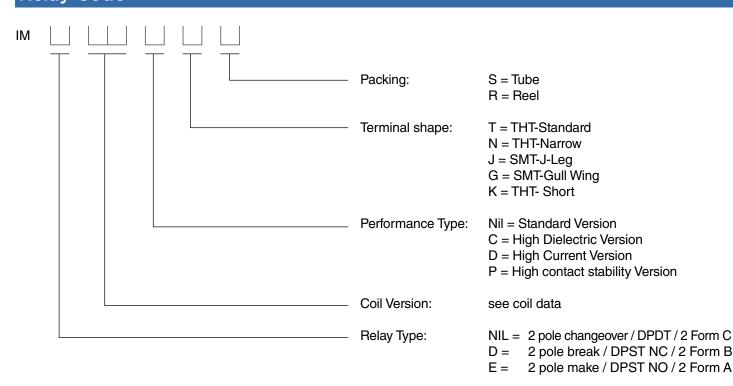
Meets Australien Requirements between open contacts



## **Selection Guide**



### **Relay Code**



A =

B=

C =

1 pole break / SPST NC / 1 Form B

1 pole make / SPST NO / 1 Form A

1 pole changeover / SPDT / 1 Form C

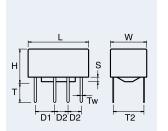


### Dimensions Dimensions in mm

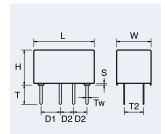
	IM <sup>-</sup>	ГНТ	IM T	'HT	IM S	SMT	IM SMT	
	Standard		Narrow		Gull V	Vings	J-Legs	
	mm	inch	mm	inch	mm inch		mm	inch
L	$10.00 \pm 0.08$	$0.393 \pm 0.003$	$10.00 \pm 0.08$	$0.393 \pm 0.003$	$10.00 \pm 0.08$	$0.393 \pm 0.003$	10.00 ± 0.08	$0.393 \pm 0.003$
W	$6.00 \pm 0.08$	$0.236 \pm 0.003$	$5.70 \pm 0.30$	$0.224 \pm 0.012$	$6.00 \pm 0.08$	$0.236 \pm 0.003$	$6.00 \pm 0.08$	$0.236 \pm 0.003$
H	5.65 - 0.20	0.222 - 0.008	$5.80 \pm 0.08$	$0.230 \pm 0.003$	5.65 - 0.20	0.222 - 0.008	5.65 - 0.02	0.222 - 0.008
T	3.2	0.125	3.2	0.125	N/A	N/A	N/A	N/A
T1	N/A	N/A	N/A	N/A	$7.50 \pm 0.30$	0.295 ± 0.011	$2.80 \pm 0.20$	0.110 ± 0.007
T2	$5.08 \pm 0.10$	$0.200 \pm 0.004$	$3.20 \pm 0.10$	$0.126 \pm 0.004$	$5.08 \pm 0.10$	0.200 ± 0.004	5.08 ± 0.10	$0.200 \pm 0.004$
D1	$3.20 \pm 0.15$	0.126 ± 0.006	$3.20 \pm 0.15$	$0.126 \pm 0.006$	$3.20 \pm 0.15$	0.126 ± 0.006	3.20 ± 0.15	0.126 ± 0.006
D2	$2.20 \pm 0.15$	$0.087 \pm 0.006$	2.20 ± 0.15	$0.087 \pm 0.006$	$2.20 \pm 0.15$	$0.087 \pm 0.006$	2.20 ± 0.15	$0.087 \pm 0.006$
Tw	0.40	0.015	0.4	0.015	0.4	0.015	0.4	0.015
s	0.75	0.029	$0.30 \pm 0.05$	0.011 ± 0.002	N/A	N/A	N/A	N/A

#### **THT Version**

#### **Standard Version**

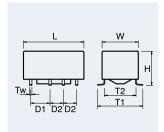


#### **Narrow Version**



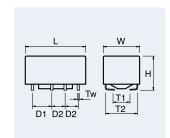
#### **SMT Version**

#### **Gull Wings**



Coplanarity ≤ 0.1mm

#### J-Legs

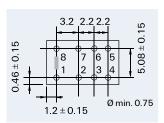


Coplanarity ≤ 0.1mm

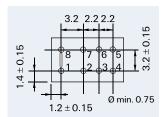
#### **Mounting Hole Layout**

View onto the component side of the PCB (top view)

#### **Standard Version**



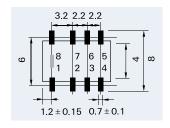
#### Narrow Version

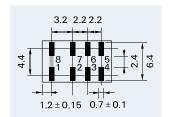


### Solder Pad Layout

View onto the component side of the PCB (top view)

#### **Gull Wings**



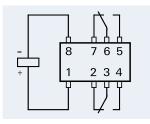


#### **Terminal Assignment**

Relay - top view

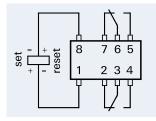
#### Non-Latching Type

not energized condition



#### Latching Type, 1 Coil

reset condition



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



	<u> </u>	t 23 °C)				Ordering In	normation
Nominal voltage U <sub>nom</sub>	Operate/set v	voltage range	Release/ reset voltage Minimum	Coil power	Coil Resistance	Relay code	Tyco Electronics part number
	Minimum voltage U <sub>min</sub>	Maximum voltage U <sub>max</sub>					number
Vdc	Vdc	Vdc	Vdc	mW	Ω / ± 10 %		
Standard Vei	rsion						
THT Standard n	non-latching 1 c	oil					
1.5	1.13	3.60	0.15	140	16	IM00TS	3-1462037-5
3	2.25	7.20	0.30	140	64	IM01TS	1462037-4
4.5	3.38	10.80	0.45	140	145	IM02TS	1-1462037-3
5	3.75	12.10	0.50	140	178	IM03TS	1-1462037-8
6	4.50	14.50	0.60	140	257	IM04TS	4-1462037-1
9	6.75	21.70	0.90	140	579	IM05TS	2-1462037-2
12	9.00	28.90	1.20	140	1029	IM06TS	2-1462037-7
24	18.00	48.50	2.40	200	2880	IM07TS	3-1462037-0
THE Norrow po	n latabina 1 asi				'	,	
THT Narrow noi	1.13	3.60	0.15	140	16	IM00NS	1-1462038-0
3	2.25	7.20	0.30	140	64	IM01NS	1-1462038-1
4.5	3.38	10.80	0.45	140	145	IM02NS	1-1462038-2
5	3.75	12.10	0.50	140	178	IM03NS	1-1462038-3
6	4.50	14.50	0.60	140	257	IM04NS	_
9						IM05NS	1-1462038-4
	6.75	21.70	0.90	140	579		1-1462038-5
12	9.00	28.90	1.20	140	1029	IM06NS	1-1462038-6
24	18.00	48.50	2.40	200	2880	IM07NS	1-1462038-7
SMT J-Legs no	n-latching 1 coi						
1.5	1.13	3.60	0.15	140	16	IM00JR	3-1462037-9
3	2.25	7.20	0.30	140	64	IM01JR	4-1462037-0
4.5	3.38	10.80	0.45	140	145	IM02JR	1-1462037-1
5	3.75	12.10	0.50	140	178	IM03JR	1-1462037-6
6	4.50	14.50	0.60	140	257	IM04JR	4-1462037-4
9	6.75	21.70	0.90	140	579	IM05JR	4-1462037-5
12	9.00	28.90	1.20	140	1029	IM06JR	4-1462037-6
24	18.00	48.50	2.40	200	2880	IM07JR	4-1462037-8
SMT Gull Wings	s non-latching 1	I coil					
1.5	1.13	3.60	0.15	140	16	IM00GR	3-1462037-7
2.4	1.80	6.80	0.24	140	41	IM08GR	6-1462039-3
3	2.25	7.20	0.30	140	64	IM01GR	1462037-1
4.5	3.38	10.80	0.45	140	145	IM02GR	1462037-9
5	3.75	12.10	0.50	140	178	IM03GR	1-1462037-4
6	4.50	14.50	0.60	140	257	IM04GR	4-1462037-2
9	6.75	21.70	0.90	140	579	IM05GR	3-1462037-4
	9.00	28.90	1.20	140	1029	IM06GR	2-1462037-3
12		-0.00	1.20	1-70	1023	IIVIOUGIT	2 1-02001-0



#### Coil Data (values at 23 °C) **Ordering Information** Operate/set voltage range Release/ Coil Coil Relay Tyco reset voltage power Resistance code Electronics voltage $\mathsf{U}_{\mathsf{nom}}$ Minimum part number Minimum Maximum voltage U<sub>max</sub> voltage U<sub>min</sub> Vdc Vdc Vdc Vdc $\Omega$ / $\pm$ 10 % mW **Latching Version** THT Standard latching 1 coil 1.13 1.5 4.30 -1.13 100 23 IM40TS 5-1462037-0 2.25 -2.25 5-1462037-3 3 8.40 100 90 IM41TS 203 IM42TS 5-1462037-6 4.5 3.38 12.90 -3.38 100 5 14.30 -3.75100 250 IM43TS 5-1462037-8 3.75 6 4.50 17.10 -4.50100 360 IM44TS 6-1462037-1 6.75 25.70 -6.75 100 810 IM45TS 3-1462037-2 9 12 -9.00 100 1440 IM46TS 6-1462037-6 9.00 34.30 24 18.00 48.50 -18.00 200 2880 IM47TS 6-1462037-9 THT Narrow latching 1 coil IM40NS 1.5 1.13 4.30 100 23 1-1462038-8 -1.13ĪM41NS 2.25 -2.251-1462038-9 8.40 100 90 3 12.90 100 203 IM42NS 2-1462038-0 4.5 3.38 -3.38 14.30 IM43NS 2-1462038-1 5 3.75 -3.75100 250 2-1462038-2 6 4.50 17.10 -4.50100 360 IM44NS 2-1462038-3 9 6.75 25.70 -6.75100 810 IM45NS 2-1462038-4 12 9.00 34.30 -9.00 100 1440 IM46NS IM47NS 2-1462038-5 24 18.00 48.50 -18.00200 2880 SMT J-Legs latching 1 coil 1.5 1.13 4.30 -1.13 100 23 IM40JR 5-1462037-2 2.25 8.40 -2.25 100 IM41JR 5-1462037-5 3 90 4.5 3.38 12.90 -3.38 100 203 IM42JR 5-1462037-7 3.75 14.30 -3.75 100 250 IM43JR 6-1462037-0 5 4.50 17.10 -4.50 100 360 IM44JR 6-1462037-3 6 25.70 -6.75 9 6.75 100 810 IM45JR 6-1462037-5 12 9.00 34.30 -9.00 100 1440 IM46JR 6-1462037-8 24 18.00 48.50 -18.00 200 2880 IM47JR 7-1462037-1 SMT Gull Wings latching 1 coil 1.5 1.13 4.30 -1.13 100 23 IM40GR 5-1462037-1 3 2.25 8.40 -2.25 100 IM41GR 90 5-1462037-4 4.5 3.38 12.90 -3.38 100 203 IM42GR 3-1462037-1 5 3.75 14.30 -3.75100 250 IM43GR 5-1462037-9 6 4.50 17.10 -4.50100 360 IM44GR 6-1462037-2 810 9 6.75 25.70 -6.75100 IM45GR 6-1462037-4 12 9.00 34.30 -9.00 100 1440 IM46GR 6-1462037-7

Further coil versions are available on request.

200

2880

-18.00

7-1462037-0

IM47GR

48.50

18.00

24



## Coil Data (values at 23 °C)

## **Ordering Information**

Nominal voltage U <sub>nom</sub>	Operate/set v	voltage range	Release/ reset voltage Minimum	Coil power	Coil Resistance	Relay code	Tyco Electronics part
	Minimum Maximum voltage U <sub>min</sub> voltage U <sub>max</sub>						number
Vdc	Vdc	Vdc	Vdc	mW	Ω / ± 10 %		

#### **High Sensitive Version**

#### SMT Gull Wings non-latching 1 coil

3	2.40	8.70	0.30	100	91	IM11GR	9-1462038-5
4.5	3.60	13.10	0.45	100	194	IM12GR	1462039-3
5	4.00	14.60	0.50	100	238	IM13GR	1462039-4
12	9.60	35.00	1.20	110	1315	IM16GR	1462039-5
24	19.20	57.80	2.40	140	4120	IM17GR	1462039-6

#### **High Dielectric Version**

#### SMT Gull Wings non-latching 1 coil

3	2.25	7.20	0.30	140	64	IM01CGR	1462038-4
4.5	3.38	10.80	0.45	140	145	IM02CGR	1462038-1
5	3.75	12.10	0.50	140	178	IM03CGR	1462038-2
9	6.75	21.70	0.90	140	579	IM05CGR	1462038-3
12	9.00	28.90	1.20	140	1029	IM06CGR	9-1462037-9
24	18.00	48.50	2.40	200	2880	IM07CGR	1462039-2

#### SMT Gull Wings latching 1 coil

3	2.25	8.40	-2.25	100	90	IM41CGR	4-1462039-2
4.5	3.38	12.90	-3.38	100	203	IM42CGR	4-1462039-1
5	3.75	14.30	-3.75	100	250	IM43CGR	9-1462038-7

#### High Current/Low Contact Resistance Version

#### SMT Gull Wings non-latching 1 coil

4.5	3.38	10.80	0.45	140	145	IM02DGR	9-1462038-8
5	3.75	12.10	0.50	140	178	IM03DGR	9-1462038-9
9	6.75	21.70	0.90	140	579	IM05DGR	1-1462039-7
12	9.00	28.90	1.20	140	1029	IM06DGR	1-1462039-8

#### THT non-latching 1 coil

	.9						
12	9.0	28.90	1.20	140	1029	IM06DTS	3-1462039-8

#### SMT Gull Wings latching 1 coil

2.4	1.80	6.80	-1.80	100	58	IM48DGR	1462039-9
3.0	2.25	8.40	-2.25	100	90	IM41DGR	6-1462039-8
4.5	3.38	12.90	-3.38	100	203	IM42DGR	1-1462039-9



#### Coil Data (values at 23 °C) **Ordering Information** Nominal Operate/set voltage range Release/ Coil Coil Relay Tyco voltage reset voltage power Resistance code Electronics $\mathsf{U}_{\mathsf{nom}}$ Minimum part number Minimum Maximum voltage U<sub>max</sub> voltage U<sub>min</sub> Vdc Vdc Vdc Vdc mW $\Omega$ / $\pm$ 10 % **Ultra High Sensitive Version** SMT Gull Wings non-latching 1 coil 2.55 10.80 0.30 50 2-1462039-6 180 IM21GR 3 4.5 3.83 16.20 0.45 50 405 IM22GR 2-1462039-7 2-1462039-9 5 4.25 18.00 0.50 50 500 IM23GR 10.20 43.20 IM26GR 3-1462039-1 12 1.20 50 2880 THT non-latching 1 coil 10.80 0.30 3 2.55 50 180 IM21TS 1-1462039-5 4.5 3.83 16.20 0.45 50 405 IM22TS 2-1462039-8 IM23TS 5 4.25 18.00 0.50 50 500 3-1462039-0 12 10.20 43.20 1.20 50 2880 IM26TS 3-1462039-2 **High Contact Stability Version** SMT Gull Wings non-latching 1 coil 3.83 10.80 0.45 140 145 IM02PGR 5-1462039-4 4.5 5-1462039-5 5 3.75 12.10 0.50 140 178 IM03PGR 12 9.00 28.90 1.20 140 1029 IM06PGR 5-1462039-6 SMT Gull Wings latching 1 coil 3.38 12.90 -3.38100 203 IM42PGR 5-1462039-7 THT Narrow non-latching 1 coil 4.5 3.83 10.80 0.45 140 145 IM02PNS 5-1462039-8 3.75 12.10 0.50 140 178 IM03PNS 5-1462039-9

Further coil versions are available on request.

140

100

1.20

-9.00

1029

1440

**IM06PNS** 

IM46PNS

6-1462039-0

6-1462039-1

9.00

9.00

28.90

34.30

12

12

THT Narrow latching 1 coil



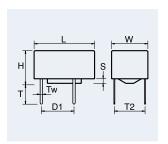
## IM-A Relay 1 Pole Break / 1 Form B / SPST NC

## **Dimensions IM-A**

Dimensions in mm

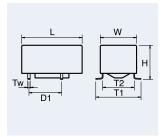
#### **THT Version**

#### **Standard Version**



	IM <sup>-</sup>	THT	IM SMT				
	Stan	dard	Gull V	Vings			
	mm	inch	mm	inch			
L	$10.00 \pm 0.08$	$0.393 \pm 0.003$	10.00 ± 0.08	$0.393 \pm 0.003$			
w	$6.00 \pm 0.08$	$0.236 \pm 0.003$	$6.00 \pm 0.08$	$0.236 \pm 0.003$			
H	5.65 - 0.20	0.222 - 0.008	5.65 - 0.20	0.222 - 0.008			
Т	3.2	0.125	N/A	N/A			
T1	N/A	N/A	7.50 ± 0.30	0.295 ± 0.011			
T2	$5.08 \pm 0.10$	$0.200 \pm 0.004$	5.08 ± 0.10	$0.200 \pm 0.004$			
D1	$3.20 \pm 0.15$	$0.126 \pm 0.006$	3.20 ± 0.15	$0.126 \pm 0.006$			
D2	$2.20 \pm 0.15$	$0.087 \pm 0.006$	2.20 ± 0.15	$0.087 \pm 0.006$			
Tw	0.40	0.015	0.4	0.015			
S	0.75	0.029	N/A	N/A			

### **SMT Version**



Coplanarity ≤ 0.1mm

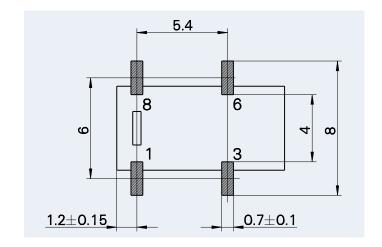
#### **Mounting Hole Layout**

View onto the component side of the PCB (top view)

## 

#### Solder Pad Layout

View onto the component side of the PCB (top view)

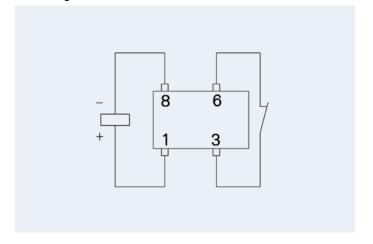


#### **Terminal Assignment**

Relay - top view

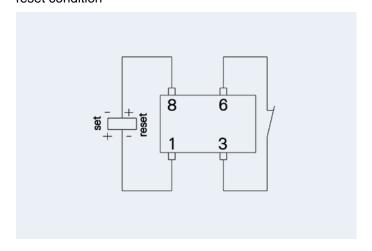
#### **Non-Latching Type**

not energized condition



#### Latching Type, 1 Coil

reset condition





## IM-A Relay 1 Pole Break / 1 Form B / SPST NC

## Coil Data (values at 23 °C)

## **Ordering Information**

Nominal voltage U <sub>nom</sub>	Operate/set voltage range		Release/ reset voltage Minimum	Coil power	Coil Resistance	Relay code	Tyco Electronics part
	Minimum voltage U <sub>min</sub>	Maximum voltage U <sub>max</sub>					number
Vdc	Vdc	Vdc	Vdc	mW	Ω / ± 10 %		

#### IM-A

#### SMT Gull Wings non-latching 1 coil

3	2.25	7.20	0.30	140	64	IMA01CGR	1462040-1
4.5	3.38	10.80	0.45	140	145	IMA02CGR	1462040-2
5	3.75	12.10	0.50	140	178	IMA03CGR	1462040-3
12	9.00	28.90	1.20	140	1029	IMA06CGR	1462040-4

#### THT non-latching 1 coil

3	2.25	7.20	0.30	140	64	IMA01CTS	1462040-5
4.5	3.38	10.80	0.45	140	145	IMA02CTS	1462040-6
5	3.75	12.10	0.50	140	178	IMA03CTS	1462040-7
12	9.00	28.90	1.20	140	1029	IMA06CTS	1462040-8



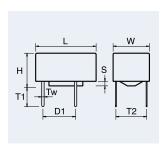
## IM-B Relay 1 Pole Make / 1 Form A / SPST NO

## **Dimensions IM-B**

Dimensions in mm

#### **THT Version**

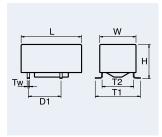
#### **Standard Version**



	IM <sup>-</sup>	THT	IM S	SMT
	Stan	ndard	Gull V	Vings
l	mm	inch	mm	inch
L	10.00 ± 0.08	$0.393 \pm 0.003$	10.00 ± 0.08	$0.393 \pm 0.003$
W	$6.00 \pm 0.08$	$0.236 \pm 0.003$	$6.00 \pm 0.08$	$0.236 \pm 0.003$
Н	5.65 - 0.20	0.222 - 0.008	5.65 - 0.20	0.222 - 0.008
Т	3.2	0.125	N/A	N/A
T1	N/A	N/A	7.50 ± 0.30	0.295 ± 0.011
T2	$5.08 \pm 0.10$	$0.200 \pm 0.004$	$5.08 \pm 0.10$	$0.200 \pm 0.004$
D1	$3.20 \pm 0.15$	$0.126 \pm 0.006$	3.20 ± 0.15	$0.126 \pm 0.006$
D2	$2.20 \pm 0.15$	$0.087 \pm 0.006$	2.20 ± 0.15	$0.087 \pm 0.006$
Tw	0.40	0.015	0.4	0.015
ls l	0.75	0.029	N/A	N/A

### **SMT Version**

#### **Gull Wings**



Coplanarity ≤ 0.1mm

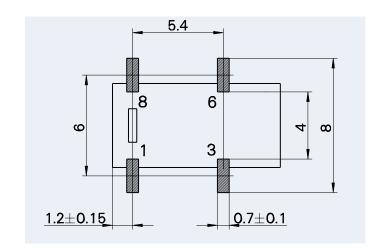
#### **Mounting Hole Layout**

View onto the component side of the PCB (top view)

# 5.4 8 6 11.0 97.0 98.0 1 3 0.75

#### Solder Pad Layout

View onto the component side of the PCB (top view)

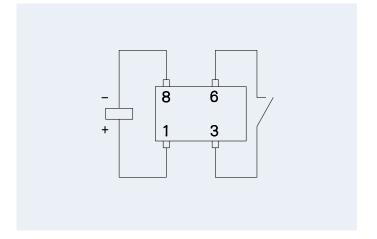


#### **Terminal Assignment**

Relay - top view

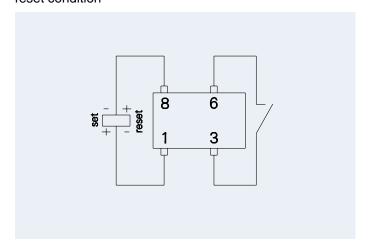
#### Non-Latching Type

not energized condition



#### Latching Type, 1 Coil

reset condition





## IM-B Relay 1 Pole Make / 1 Form A / SPST NO

## Coil Data (values at 23 °C)

## **Ordering Information**

Nominal voltage U <sub>nom</sub>	Operate/set voltage range		Release/ reset voltage Minimum	Coil power	Coil Resistance	Relay code	Tyco Electronics part
	Minimum voltage U <sub>min</sub>	Maximum voltage U <sub>max</sub>					number
Vdc	Vdc	Vdc	Vdc	mW	$\Omega$ / $\pm$ 10 %		

#### IM-B

#### SMT Gull Wings non-latching 1 coil

3	2.25	7.20	0.30	140	64	IMB01CGR	1462041-1
4.5	3.38	10.80	0.45	140	145	IMB02CGR	1462041-2
5	3.75	12.10	0.50	140	178	IMB03CGR	1462041-7
6	4.50	14.50	0.60	140	257	IMB04CGR	1462041-9
12	9.00	28.90	1.20	140	1029	IMB06CGR	1462041-3
24	18.00	48.50	2.40	200	2880	IMB07CGR	1-1462041-3

#### THT non-latching 1 coil

3	2.25	7.20	0.30	140	64	IMB01CTS	1462041-4
4.5	3.38	10.80	0.45	140	145	IMB02CTS	1462041-5
5	3.75	12.10	0.50	140	178	IMB03CTS	1462041-8
12	9.00	28.90	1.20	140	1029	IMB06CTS	1462041-6
24	18.00	48.50	2.40	200	2880	IMB07CTS	1-1462041-4

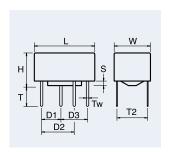


## **Dimensions IM-C**

Dimensions in mm

#### **THT Version**

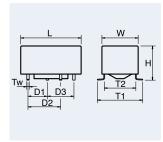
#### **Standard Version**



	IM <sup>-</sup>	THT	IM S	SMT
	Stan	ndard	Gull V	Vings
	mm	inch	mm	inch
L	$10.00 \pm 0.08$	$0.393 \pm 0.003$	10.00 ± 0.08	$0.393 \pm 0.003$
w	$6.00 \pm 0.08$	$0.236 \pm 0.003$	$6.00 \pm 0.08$	$0.236 \pm 0.003$
Н	5.65 - 0.20	0.222 - 0.008	5.65 - 0.20	0.222 - 0.008
Т	3.2	0.125	N/A	N/A
T1	N/A	N/A	7.50 ± 0.30	$0.295 \pm 0.011$
T2	$5.08 \pm 0.10$	$0.200 \pm 0.004$	5.08 ± 0.10	$0.200 \pm 0.004$
D1	$3.20 \pm 0.15$	$0.126 \pm 0.006$	3.20 ± 0.15	$0.126 \pm 0.006$
D2	$2.20 \pm 0.15$	$0.087 \pm 0.006$	2.20 ± 0.15	$0.087 \pm 0.006$
Tw	0.40	0.015	0.4	0.015
s	0.75	0.029	N/A	N/A

### **SMT Version**

#### **Gull Wings**



Coplanarity ≤ 0.1mm

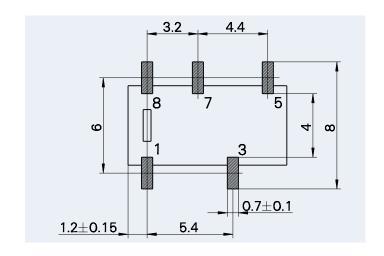
#### **Mounting Hole Layout**

View onto the component side of the PCB (top view)

# 3.2 4.4 8 7 5 10 80 00 1.2±0.15 5.4 min. Ø 0.75

#### **Solder Pad Layout**

View onto the component side of the PCB (top view)

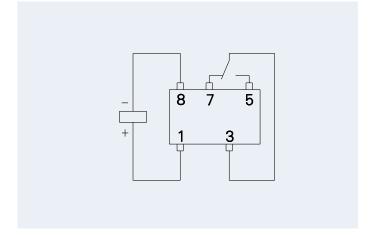


#### **Terminal Assignment**

Relay - top view

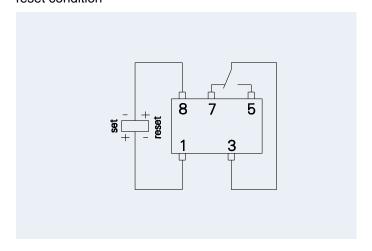
#### Non-Latching Type

not energized condition



#### Latching Type, 1 Coil

reset condition





## Coil Data (values at 23 °C)

## **Ordering Information**

Nominal voltage U <sub>nom</sub>	Operate/set voltage range		Release/ reset voltage Minimum	Coil power	Coil Resistance	Relay code	Tyco Electronics part
	Minimum voltage U <sub>min</sub>	Maximum voltage U <sub>max</sub>					number
Vdc	Vdc Vdc		Vdc	mW	Ω / ± 10 %		

#### IM-C

#### SMT Gull Wings non-latching 1 coil

3	2.25	7.20	0.30	140	64	IMC01GR	1462042-1
4.5	3.38	10.80	0.45	140	145	IMC02GR	1462042-2
5	3.75	12.10	0.50	140	178	IMC03GR	1462042-8
12	9.00	28.90	1.20	140	1029	IMC06GR	1462042-3
24	18.00	48.50	2.40	200	2880	IMC07GR	1-1462042-1

#### THT non-latching 1 coil

3	2.25	7.20	0.30	140	64	IMC01TS	1462042-4
4.5	3.38	10.80	0.45	140	145	IMC02TS	1462042-5
5	3.75	12.10	0.50	140	178	IMC03TS	1462042-7
12	9.00	28.90	1.20	140	1029	IMC06TS	1462042-6
24	18.00	48.50	2.40	200	2880	IMC07TS	1-1462042-2

#### **IM-C High Dielectric**

#### SMT Gull Wings non-latching 1 coil

4.5	3.38	10.80	0.45	140	145	IMC02CGR	1-1462042-0
12	9.00	28.90	1.20	140	1029	IMC06CGR	1462042-9



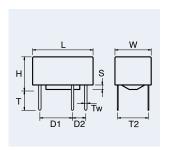
## IM-D Relay 2 Pole Break / 2 Form B / DPST NC

## **Dimensions IM-D**

Dimensions in mm

#### **THT Version**

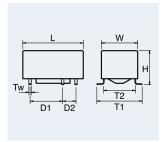
#### **Standard Version**



	IM <sup>-</sup>	THT	IM S	SMT		
	Star	ndard	Gull Wings			
	mm	inch	mm	inch		
L	10.00 ± 0.08	$0.393 \pm 0.003$	10.00 ± 0.08	$0.393 \pm 0.003$		
w	$6.00 \pm 0.08$	$0.236 \pm 0.003$	$6.00 \pm 0.08$	$0.236 \pm 0.003$		
Н	5.65 - 0.20	0.222 - 0.008	5.65 - 0.20	0.222 - 0.008		
Т	3.2	0.125	N/A	N/A		
T1	N/A	N/A	7.50 ± 0.30	0.295 ± 0.011		
T2	$5.08 \pm 0.10$	$0.200 \pm 0.004$	5.08 ± 0.10	$0.200 \pm 0.004$		
D1	$3.20 \pm 0.15$	$0.126 \pm 0.006$	3.20 ± 0.15	$0.126 \pm 0.006$		
D2	2.20 ± 0.15	$0.087 \pm 0.006$	2.20 ± 0.15	$0.087 \pm 0.006$		
Tw	0.40	0.015	0.4	0.015		
s	0.75	0.029	N/A	N/A		

### **SMT Version**

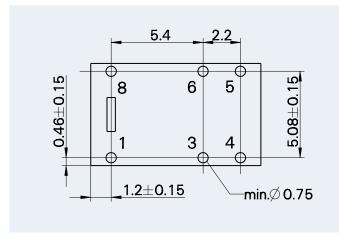
#### **Gull Wings**



Coplanarity ≤ 0.1mm

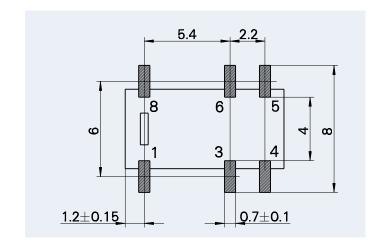
#### **Mounting Hole Layout**

View onto the component side of the PCB (top view)



#### Solder Pad Layout

View onto the component side of the PCB (top view)

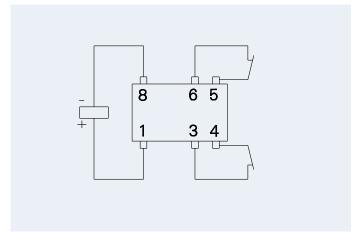


#### **Terminal Assignment**

Relay - top view

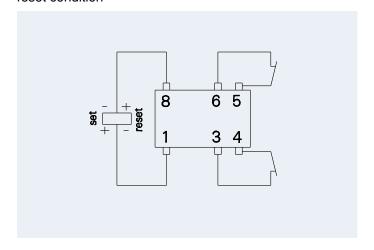
#### **Non-Latching Type**

not energized condition



#### Latching Type, 1 Coil

reset condition





## IM-D Relay 2 Pole break / 2 Form B / DPST NC

## Coil Data (values at 23 °C)

## **Ordering Information**

Nominal voltage U <sub>nom</sub>	Operate/set voltage range		Release/ reset voltage Minimum	Coil power	Coil Resistance	Relay code	Tyco Electronics part
	Minimum voltage U <sub>min</sub>	Maximum voltage U <sub>max</sub>					number
Vdc	Vdc	Vdc	Vdc	mW	Ω / ± 10 %		

#### IM-D

#### SMT Gull Wings non-latching 1 coil

3	2.25	7.20	0.30	140	64	IMD01GR	1462044-1
4.5	3.38	10.80	0.45	140	145	IMD02GR	1462044-2
5	3.75	12.10	0.50	140	178	IMD03GR	1462044-3
12	9.00	28.90	1.20	140	1029	IMD06GR	1462044-4

#### THT non-latching 1 coil

3	2.25	7.20	0.30	140	64	IMD01TS	1462044-5
4.5	3.38	10.80	0.45	140	145	IMD02TS	1462044-6
5	3.75	12.10	0.50	140	178	IMD03TS	1462044-7
12	9.00	28.90	1.20	140	1029	IMD06TS	1462044-8



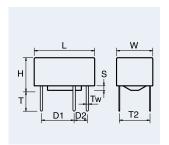
## IM-E Relay 2 Pole Make / 2 Form A / DPST NO

## **Dimensions IM-E**

**Dimensions in mm** 

#### **THT Version**

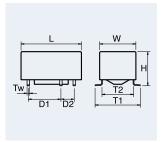
#### **Standard Version**



	IM <sup>-</sup>	THT	IM SMT			
	Stan	ndard	Gull V	Vings		
	mm	inch	mm	inch		
L	$10.00 \pm 0.08$	$0.393 \pm 0.003$	10.00 ± 0.08	$0.393 \pm 0.003$		
w	$6.00 \pm 0.08$	$0.236 \pm 0.003$	$6.00 \pm 0.08$	$0.236 \pm 0.003$		
Н	5.65 - 0.20	0.222 - 0.008	5.65 - 0.20	0.222 - 0.008		
Т	3.2	0.125	N/A	N/A		
T1	N/A	N/A	7.50 ± 0.30	$0.295 \pm 0.011$		
T2	$5.08 \pm 0.10$	$0.200 \pm 0.004$	5.08 ± 0.10	$0.200 \pm 0.004$		
D1	$3.20 \pm 0.15$	$0.126 \pm 0.006$	3.20 ± 0.15	$0.126 \pm 0.006$		
D2	$2.20 \pm 0.15$	$0.087 \pm 0.006$	2.20 ± 0.15	$0.087 \pm 0.006$		
Tw	0.40	0.015	0.4	0.015		
s	0.75	0.029	N/A	N/A		

### **SMT Version**

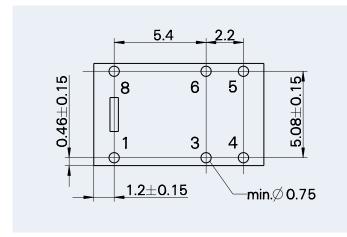
#### **Gull Wings**



Coplanarity ≤ 0.1mm

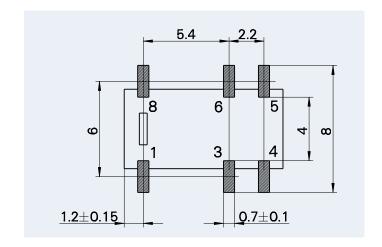
#### **Mounting Hole Layout**

View onto the component side of the PCB (top view)



#### Solder Pad Layout

View onto the component side of the PCB (top view)

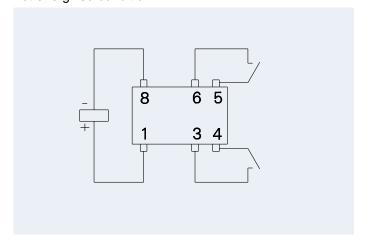


#### **Terminal Assignment**

Relay - top view

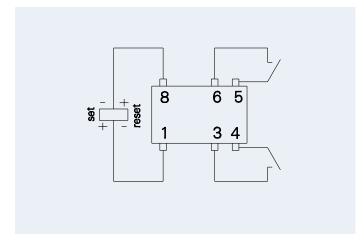
#### **Non-Latching Type**

not energized condition



#### Latching Type, 1 Coil

reset condition





## IM-E Relay 2 Pole Make / 2 Form A / DPST NO

## Coil Data (values at 23 °C)

## **Ordering Information**

Nominal voltage U <sub>nom</sub>	Operate/set voltage range		Release/ reset voltage Minimum	Coil power	Coil Resistance	Relay code	Tyco Electroincs part
	Minimum voltage U <sub>min</sub>	Maximum voltage U <sub>max</sub>					number
Vdc	Vdc	Vdc	Vdc	mW	$\Omega$ / $\pm$ 10 %		

#### IM-E

#### SMT Gull Wings non-latching 1 coil

3	2.25	7.20	0.30	140	64	IME01GR	1462043-1
4.5	3.38	10.80	0.45	140	145	IME02GR	1462043-2
5	3.75	12.10	0.50	140	178	IME03GR	1462043-3
12	9.00	28.90	1.20	140	1029	IME06GR	1462043-4

#### THT non-latching 1 coil

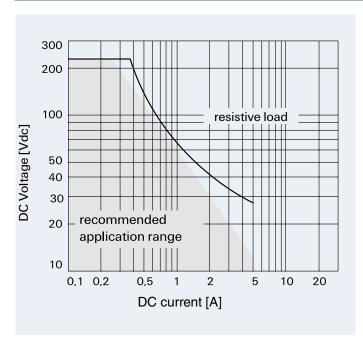
3	2.25	7.20	0.30	140	64	IME01TS	1462043-5
4.5	3.38	10.80	0.45	140	145	IME02TS	1462043-6
5	3.75	12.10	0.50	140	178	IME03TS	1462043-7
12	9.00	28.90	1.20	140	1029	IME06TS	1462043-8



## **Contact Data**

		Standard and "C"Version	"D" Version	"P" Version			
Number of conta	acts and type		2 changeover contacts	1			
Contact assemb	bly		Bifurcated contacts				
Contact materia	I	Palladium-ruthenium, gold-covered	Palladium-ruthenium, gold-covered				
Limiting continue at max. ambient		2 A	2 A				
Maximum switch	ning current	2 A	5 A	2 A			
Maximum swich	ting voltage		220 Vdc 250 Vac				
Maximum switch	ning capacity		60 W, 62.5 VA				
Thermoelectric	potential		< 10 µV				
Minimum switch	ing voltage		100 μV				
Initial contact remeasuring cond	sistance / lition: 10 mA / 20 mV	< 50 mΩ					
Electrical endurance	at contact application 0 (≤ 30 mV / ≥ 10 mA) cable load open end		min. 2.5 x 10 <sup>6</sup> operations min. 2.0 x 10 <sup>6</sup> operations				
Resistive load	at 125Vdc / 0.24 A - 30 W at 220 Vdc / 0.27 A - 60 W at 250 Vac / 0.25 A - 62.5 VA at 30 Vdc / 1 A - 30 W at 30 Vdc / 2 A - 60 W	min. 5 x 10 <sup>5</sup> operations min. 1 x 10 <sup>5</sup> operations min. 1 x 10 <sup>5</sup> operations min. 5 x 10 <sup>5</sup> operations min. 5 x 10 <sup>5</sup> operations					
Mechanical end	urance	typ. 108 operations					
UL contact ratin	gs	220 Vdc / 0.24 A - 60 W 125 Vdc / 0.24 A - 30 W 250 Vac / 0.25 A - 62.5 VA 125 Vac / 0.5 A - 62.5 VA 30 Vdc / 2 A - 60 W					

## Max. DC Load Breaking Capacity

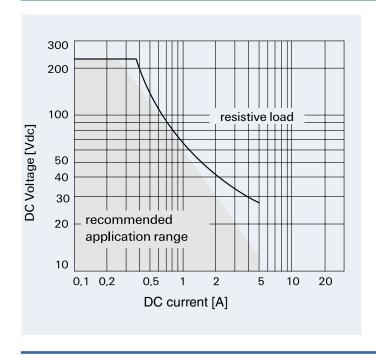




## **Contact Data**

		IM-A	IM-B	IM-C	IM-D	IM-E	
Number of conta	acts and type	1 Pole break	1 Pole make	1 Pole changeover	2 Pole break	2 Pole make	
Contact assemb	ply	Bifurcated contacts					
Contact materia	ıl		Palladiu	m-ruthenium, gold	-covered		
Limiting continuat max. ambient		2 A	2 A	4 A	2 A	2 A	
Maximum switch	hing current	2 A	2 A	2 A	2 A	2 A	
Maximum swich	nting voltage			220 Vdc 250 Vac			
Maximum switch	hing capacity			60 W, 62.5 VA			
Thermoelectric	potential	< 10 μV					
Minimum switch	ing voltage			100 μV			
Initial contact remeasuring cond	sistance / dition: 10 mA / 20 mV	< 100 mΩ	< 100 mΩ	NO < 100 mΩ	< 50 mΩ	< 50 mΩ	
Electrical endurance	CC0 Contact category 0 (≤ 30 mV / ≥ 10 mA) cable load open end			n. 2.5 x 10 <sup>6</sup> operati n. 2.0 x 10 <sup>6</sup> operati			
Resistive load	at 125 Vdc / 0.24 A - 30 W at 220 Vdc / 0.27 A - 60 W at 250 Vac / 0.25 A - 62.5 VA at 30 Vdc / 1 A - 30 W at 30 Vdc / 2 A - 60 W	min. $5 \times 10^5$ operations min. $1 \times 10^5$ operations min. $1 \times 10^5$ operations min. $5 \times 10^5$ operations min. $1 \times 10^5$ operations					
Mechanical end	lurance			typ. 108 operations	3		
UL contact ratin	gs	220 Vdc / 0.24 A - 60 W 125 Vdc / 0.24 A - 30 W 250 Vac / 0.25 A - 62.5 VA 125 Vac / 0.5 A - 62.5 VA 30 Vdc / 2 A - 60 W					

## Max. DC Load Breaking Capacity





## Insulation

IM Versions	Standard, Sensitive, Ultra High Sensitive Version	"C" Version High Dielectric	"D" Version High Current	"P" Version High Contact stability
Insulation resistance at 500 Vdc	> 10 <sup>9</sup> Ω	> 10 <sup>9</sup> Ω	> 10 <sup>9</sup> Ω	> 10 <sup>9</sup> Ω
Dielectric test voltage (1 min) between coil and contacts between adjacent contact sets between open contacts	1800 Vrms	1800 Vrms	1500 Vrms	1500 Vrms
	1000 Vrms	1800 Vrms	750 Vrms	750 Vrms
	1000 Vrms	1500 Vrms	750 Vrms	750 Vrms
Surge voltage resistance according to Telcordia TR-NWT-001089 (2/10 µs) between coil and contacts between adjacent contact sets between open contacts	2500 V	2500 V	2000 V	2000 V
	1500 V	2500 V	1000 V	1000 V
	1500 V	2500 V	1000 V	1000 V
according / EC 60950 (10/ 700 µs) between coil and contacts between adjacent contact sets between open contacts	2500 V	2500 V	2000 V	2000 V
	1500 V	2500 V	1000 V	1000 V
	1500 V	2500 V	1000 V	1000 V

IM Type	IM-A IM-B	IM-C	IM-D IM-E
Insulation resistance at 500 Vdc	> 10 <sup>9</sup> Ω	> <b>10</b> <sup>9</sup> Ω	> 10 <sup>9</sup> Ω
Dielectric test voltage (1 min) between coil and contacts between adjacent contact sets between open contacts	4000 Vrms - 2500 Vrms	1800 Vrms - 1000 Vrms	1800 Vrms 1000 Vrms 1000 Vrms
Surge voltage resistance according to Telcordia TR-NWT-001089 (2/10 µs) between coil and contacts between adjacent contact sets between open contacts	5600 V - 3500 V	2500 V - 1500 V	2500 V 1500 V 1500 V
according / EC 60950 (10/ 700 µs) between coil and contacts between adjacent contact sets between open contacts	5600 V - 3500 V	2500 V - 1500 V	2500 V 1500 V 1500 V



## High Frequency Data

	IM-A / IM-B	IM / IM-D / IM-E	IMC
Capacitance between coil and contacts		max. 2 pF	
between adjacent contact sets		max. 2 pF	
between open contacts		max. 1 pF	
RF Characteristics	50 Ω	50 Ω	50 Ω
Isolation at 100 MHz / 900 MHz	- 33.0 dB / - 13.5 dB	- 37.0 dB / - 18.8 dB	- 35.0 dB / - 13.3 dB
Insertion loss at 100 MHz / 900 MHz	- 0.06 dB / - 1.00 dB	- 0.03 dB / - 0.33 dB	- 0.04 dB / - 0.40 dB
V.S.W.R. at 100 MHz / 900 MHz	1.10 / 2.00	1.06 / 1.49	1.04 / 1.33

## **General** Data

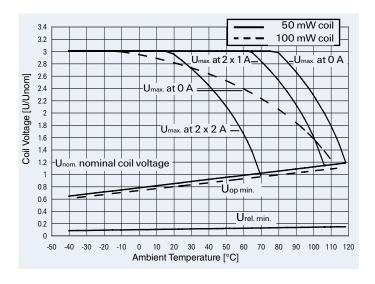
1 ms / 3 ms	
1 ms / 3 ms	
10ms*	
1 ms / 3 ms	
3 ms / 5 ms	
1 ms / 5 ms	
50 operations/s	
-40 °C +85 °C	
< 150 K/W	
125 °C	
20 G	
10 to 500 Hz	
50 G (function)	
500 G (damage)	
immersion cleanable, IP 67 / RT V	
application time 20 s, no burning and glowing	
any	
Ultrasonic cleaning is not recommended	
max. 0.75 g	
NiPdAu	
MSL 3	
265 °C / 10 s	

<sup>\*</sup> Duration may be shorter depending on pulse shape, voltage applied and ambiente temperature

All data refers to 23 °C unless otherwise specified.



## **Coil Operating Range**



 $U_{nom}$ Nominal coil voltage

Upper limit of the operative range of  $U_{max.}$ the coil voltage (limiting voltage) when

coils are continously energized

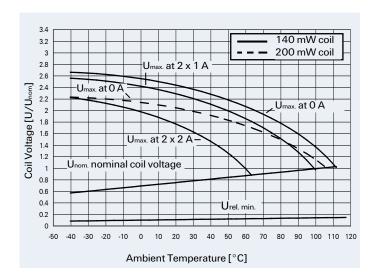
 $U_{\text{op. min.}}$ Lower limit of the operative range of the coil voltage (reliable operate voltage)

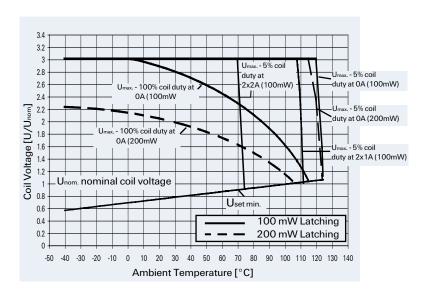
For latching relays Uset min. resp.

Ureset min.

Lower limit of the operative range of  $U_{\text{rel. min.}}$ 

the coil voltage (reliable release voltage)

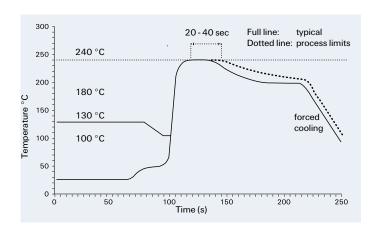






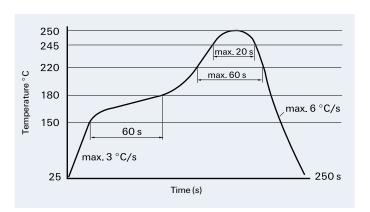
## **Recommended Soldering Conditions**

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



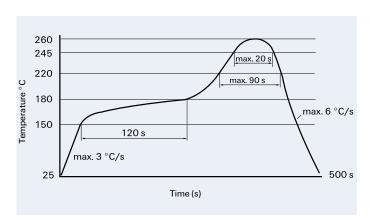
Vapor Phase Soldering: Temperature/Time Profile (Lead and Housing Peak Temperature)

#### **Recommended Reflow Soldering Profile**



Infrared Soldering: Temperature/Time Profile (Lead and Housing Peak Temperature)

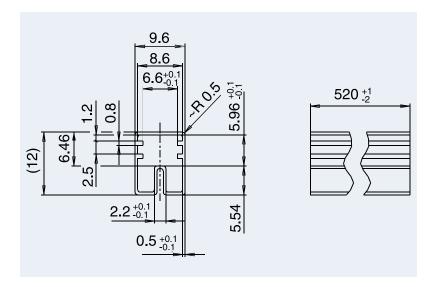
#### **Resistance to Soldering Heat - Reflow Profile**



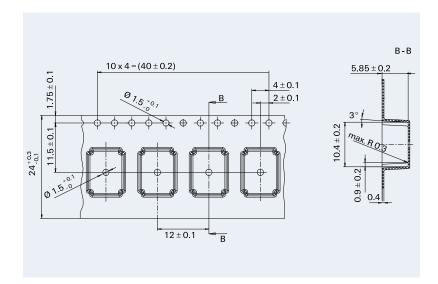
Infrared Soldering: Temperature/Time Profile (Lead and Housing Peak Temperature)



## Packing Dimensions in mm

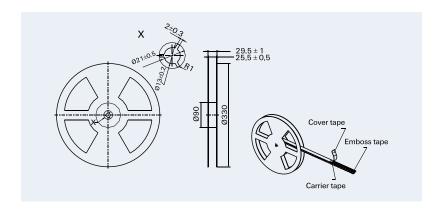


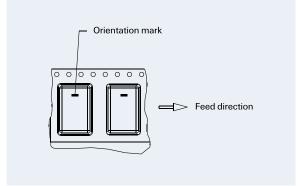
Tube for THT version 50 relays per tube 1'000 relays per box



Tape and reel for SMT version 1'000 relays per reel 1'000 or 5'000 relays per box

#### **Reel Dimension**







#### **IM Relays**

4th generation slim line – low profile polarized 2 c/o telecom signal relay with bifurcated contacts, available as non latching or latching relay with 1 coil. Nominal voltage range from 1.5 ... 24 V, coil power consumption of 50 ... 200 mW, latching relays with 1 coil 100 mW. The IM relay is available as through hole and surface mount type (J-Legs and Gull Wings) and capable to switch loads up to 60 W/62,5 VA. It is currently the only 2 A rated 4G relay on the market. Dielectric strength fulfills the Telcordia requirements according GR 1089 (2,5 kV – 2 / 10  $\mu$ s) and FCC part 68 (1,5 kV – 10 / 160  $\mu$ s). The IM relay is tested according CECC/IECQ and certified in accordance with IEC/EN 60950 and UL 60950.

Dimensions approx. 10 x 6 mm board space and 5.65 mm height.

#### P2 Relays

3rd generation polarized 2 c/o telecom relay with bifurcated contacts, available as non latching or latching relay with 1 or 2 coils. Nominal voltage range from 3 ... 24 V, coil power consumption 140 mW, latching relays with 1 coil 70 mW. The P2 Relay is available as through hole or surface mount type and capable to switch currents up to 5 A. Dielectric strength fulfills the Telcordia requirements according GR 1089 (2,5 kV - 2 / 10  $\mu$ s) and FCC part 68 (1,5 kV - 10 / 160  $\mu$ s). The P2 relay is tested according CECC/IECQ and certified in accordance with IEC/EN 60950 and UL 60950. Dimensions approx. 15 x 7,5 mm board space and 10 mm height.

#### FX2 Relays

3rd generation polarized 2 c/o telecom relay with bifurcated contacts, available as non latching or latching relay with 1 coil. Nominal voltage range from 3 ... 48 V, coil power consumption of 80 ... 260 mW for the high sensitive version, 140... 300 mW for the standard version, latching relays with 1 coil 100 mW. The FX2 relay is available as through hole type and capable to switch loads up to 60 W/62,5 VA. Dielectric strength fulfills the Telcordia requirements according GR 1089 (2,5 kV - 2 / 10  $\mu$ s) and FCC part 68 (1,5 kV - 10 / 160  $\mu$ s). The FX2 relay is tested according CECC/IECQ and certified in accordance with IEC/EN 60950 and UL 60950. Dimensions approx. 15 x 7,5 mm board space and 10,7 mm height.

#### FT2 / FU2 Relays

3rd generation non polarized, non latching 2 c/o telecom relay with bifurcated contacts. Nominal voltage range from 3 ... 48 V, coil power consumption 200 ... 300 mW. Most sensitive 48 V relay. Available as through hole and surface mount type. Dielectric strength fulfills the Telcordia requirements according GR 1089 (2,5 kV - 2 / 10  $\mu s$ ) and FCC part 68 (1,5 kV - 10 / 160  $\mu s$ ). The FT2/FU2 relay is tested according CECC/IECQ and certified in accordance with IEC/EN 60950 and UL 60950.

Dimensions approx. 15 x 7,5 mm board space and 10 mm height.

#### FP2 Relays

3rd generation polarized 2 c/o telecom relay with bifurcated contacts, available as non latching or latching relay with 1 or 2 coils. Nominal voltage range from 3 ... 48 V, coil power consumption of 80 ... 260 mW for the high sensitive version, 140... 300 mW for the standard version, latching relays with 1 coil 100 mW.. The FP2 Relay is available as through hole type and capable to switch loads up to 60 W/62,5 VA. Dielectric strength fulfills FCC part 68 (1,5 kV - 10 / 160  $\mu s$ ). The FP2 is tested according CECC/IECQ approved.

Dimensions approx. 14 x 9 mm board space and 5 mm height.

#### MT2

2nd generation non polarized, non latching 2 c/o telecom and signal relay with bifurcated contacts. Nominal voltage range from 3 ... 48 V, coil power consumption 150/200/300/400 and 550 mW. Dielectric strength fulfills the requirements according FCC part 68 (1.5 kV - 10 / 160 µs).

Dimensions approx. 20 x 10 mm board space and 11 mm height.

#### D2n Relays

2nd generation non polarized 2 c/o relay for telecom and various other applications. Nominal voltage range from 3 ... 48 V, coil power consumption from 150 .... 500 mW. The D2n relay is capable to switch currents up to 3 A. Dielectric strength fulfills the requirements according FCC part 68 (1,5 kV - 10 / 160  $\mu s$ ). Dimensions approx. 20 x10 mm board space and 11 mm height.

#### P1 Relays

Extremely sensitive, polarized 1 c/o relay with bifurcated contacts for a wide range of applications, available as non latching or latching relay with 1 or 2 coils. Nominal voltage range from 3 ... 24 V, coil power consumption 65 mW, latching relays with 1 coil 30 mW. The P1 relay is available as through hole or surface mount type and capable to switch currents up to 1 A. Dielectric strength fulfills the requirements according FCC part 68 (1,5 kV - 10 / 160  $\mu$ s). Dimensions approx. 13 x 7,6 mm board space and 7 mm height for THT or 8 mm height for SMT version.

#### W11 Relays

Low cost, non polarized 1 c/o relay for various applications. Nominal voltage range from  $3\dots24$  V, coil power consumption 450 mW, sensitive versions 200 mW. The W11 relay is capable to switch currents up to 3 A. Dielectric strength 1000 Vrms.

Dimensions approx. 15,6 x 10,6 mm board space and 11,5 mm height.

#### Reed Relays

High sensitive, non polarized relay for telecom and various other applications, available with 1 n/o, 2 n/o or 1c/o contacts. Nominal voltage range from 5 ... 24 V, coil power consumption 50...280 mW for 1 n/o and 125 ... 280 mW for 2 n/o or 1 c/o versions. Reedrelays are available in DIP or SIL housing and capable to switch currents up to 0,5 A. Integrated diode and/or electrostatic shield optional. Dielectric strength 1500 Vdc. Dimensions approx. 19,3 x 7 mm board space and 5 ... 7,5 mm height for DIP or 19,8 x 5 mm board space and 7,8 mm height for SIL version.

#### Cradle Relays

Extremely reliable and mature relay family of 1st generation for various signal switching applications. Available as non polarized, polarized / latching and relay with AC coil. The benefit is the possibility of combining various contact sets from 1 up to 6 poles, single and bifurcated contacts, different contact materials with a coil voltage range from 1,5 Vdc to 220 Vac. Cradle relays are available as dust protected and hermetically sealed versions, with plug in or solder terminals and are capable to switch currents up to 5 A. Forcibly guided (linked) contact sets optional. Dielectric strength 500 Vrms. Dimensions from approx. 19 x 24 to 19x35 mm board space and 30 mm height.

#### Other Relays

We offer a variety of different relay families for maintenance and replacement purposes. These relays are up to 60 years old now, such as Card Relay SN (V23030 series), Small General Purpose Relay (V23006 series), Small Polarized Relay (V23063 ... V23067 and V23163 ... V23167 series). Accessories like sockets, hold down springs, etc. optional.

#### **High Frequency Relays**

HF3 / HF3S / HF6 series RF relays offering excellent RF characteristics in a small package. All HF series relays are suitable for SMD soldering processes. Available as non latching or latching versions with 1 or 2 coils and a nominal coil voltage range from 3 ... 24 V, a coil power consumption of 140 mW or 70 mW (single coil latching types).

**HF3:** Low cost RF relay suitable up to 3 GHz. Impedance 50 and 75 Ohm. 50 W hot switching and 50 W RF power carry capability. Dimensions  $14.6 \times 7.3 \times 10.3$  mm.

**HF3S:** High performance, high power RF relay suitable up to 3 GHz, 50 W hot switching and 150 W RF power carry capability. Dimensions 15 x  $7.6 \times 10.6 \text{ mm}$ .

**HF6:** High performance, high power RF relay suitable up to 6 GHz, 50 W hot switching and 50 W RF power carry capability. Dimensions 15 x 7.6 x 10.6 mm.



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