

IM - E Relay

- Minimum board-space 60mm²
- Slim line 10x6mm (0.39x0.24") and
- Low profile 5.65mm (0.222")
- Switching power 60W/62.5VA
- Switching voltage 220VDC/250VAC
- Switching current 2A
- Bifurcated contacts
- High mechanical shock resistance

Typical applications

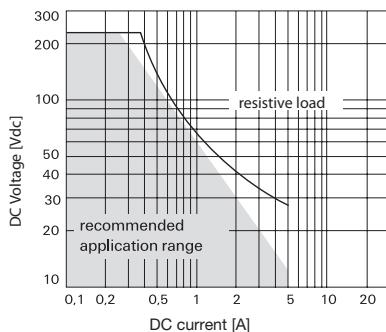
Telecommunication, access and transmission equipment, optical network terminals, modems, office and business equipment, consumer electronics, measurement and test equipment, industrial control, medical equipment, automotive applications

Approvals

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

Contact Data

| | |
|-----------------------------|---|
| Contact arrangement | 2 Form A, 2 NO |
| 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 |
| Minimum switching voltage | 100µV |
| Initial contact resistance | <50mΩ at 10mA/20mV |
| 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 |
| Set/reset time max. | typ. 1ms, max. 3ms |
| Bounce time max. | typ. 1ms, max. 5ms |
| Electrical endurance | |

Max. DC load breaking capacity


at contact application 0

(≤30mV/≤10mA)
cable load open end
resistive, 125VDC / 0.24A - 30W
resistive, 220 VDC / 0.27A - 60W
resistive, 250VAC / 0.25A - 62.5VA
resistive, 30VDC / 1A - 30W
resistive, 30VDC / 2A - 60W

min. 2.5x10⁶ operations
min. 2.0x10⁶ operations
min. 5x10⁵ operations
min. 1x10⁵ operations
min. 1x10⁵ operations
min. 5x10⁵ operations
min. 1x10⁵ operations



IM_DE


Contact Data (continued)

| | |
|----------------------|---|
| Contact ratings, UL | 220 VDC, 0.24A 60W 125 VDC, 0.24A 30W 250 VAC, 0.25A 62.5VA 125 VAC, 0.5A 62.5VA 30 VDC, 2A 60W |
| Mechanical endurance | 10 ⁸ operations |

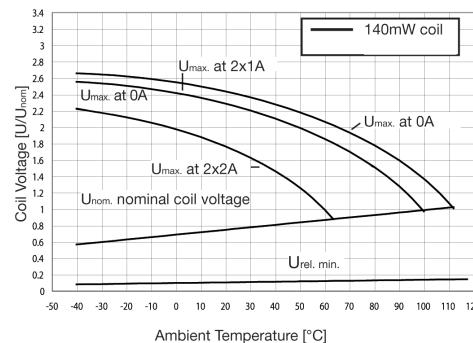
Coil Data

| | |
|-----------------------|--------------|
| 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 voltage VDC | Release voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-----------------------|---------------------|
| 01 | 3.0 | 2.25 | 0.30 | 64 | 140 |
| 02 | 4.5 | 3.38 | 0.45 | 145 | 140 |
| 03 | 5.0 | 3.75 | 0.50 | 178 | 140 |
| 06 | 12.0 | 9.00 | 1.20 | 1029 | 140 |

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

Coil operating range, standard version


IM - E Relay (Continued)
Insulation

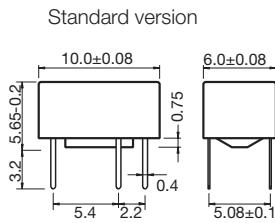
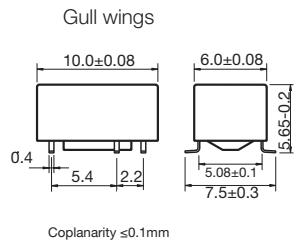
| | |
|---------------------------------|----------------------|
| Initial dielectric strength | |
| between open contacts | 1000V _{rms} |
| between contact and coil | 1800V _{rms} |
| between adjacent contacts | 1000V _{rms} |
| Initial surge withstand voltage | |
| between open contacts | 1500V |
| between contact and coil | 2500V |
| between adjacent contacts | 1500V |
| Initial insulation resistance | |
| between insulated elements | >10 ⁹ Ω |
| Capacitance | |
| between open contacts | max. 1pF |
| between contact and coil | max. 2pF |
| between adjacent contacts | max. 2pF |

RF Data

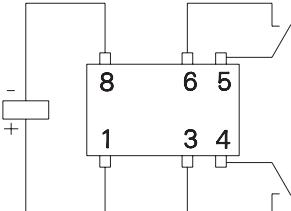
| | |
|---|-----------------|
| Isolation at 100MHz/900MHz | 37.0dB / 18.8dB |
| Insertion loss at 100MHz/900MHz | 0.03dB / 0.33dB |
| Voltage standing wave ratio (VSWR) at 100MHz/900MHz | 1.06 / 1.49 |

Other Data

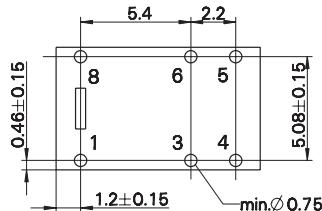
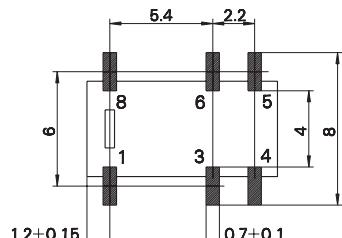
| | |
|---|---------------------------------------|
| Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter | |
| Ambient temperature | -40°C to +85°C |
| Thermal resistance | <150K/W |
| Category of environmental protection | RT V - hermetically sealed |
| IEC 61810 | |
| Degree of protection | IP 67, immersion cleanable |
| IEC 60529 | |
| 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 |
| 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 |
| Washing | see application notes |
| Ultrasonic cleaning | not recommended |
| Storage conditions | 3 years |
| Packaging/unit | |
| THT version | tube/50 pcs, box/1000 pcs |
| SMT version | reel/1000 pcs., box/1000 or 5000 pcs. |

Dimensions
THT version

SMT version

Terminal assignment

TOP view on relay

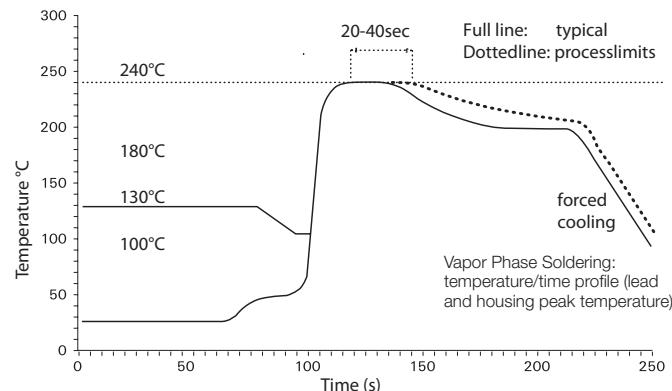
IM-E, 2 form A (2 NO)

PCB layout

TOP view on component side of PCB

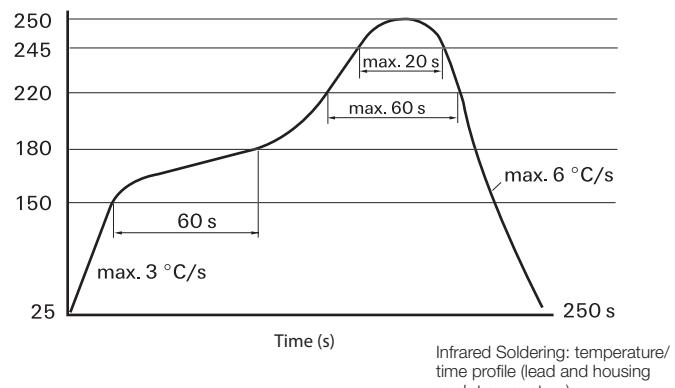
THT mounting holes

SMT - solder pads


IM - E Relay (Continued)
Processing

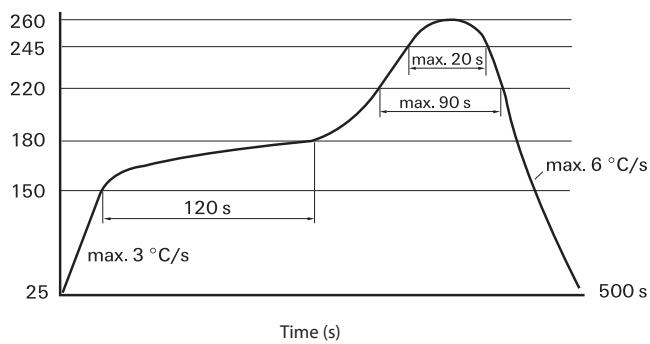
Recommended soldering conditions

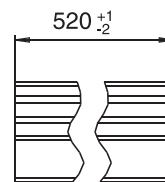
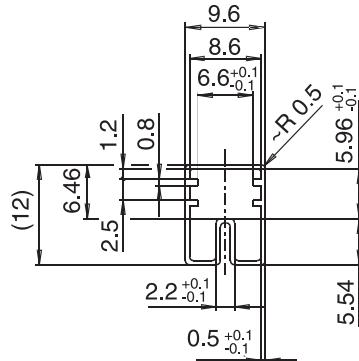
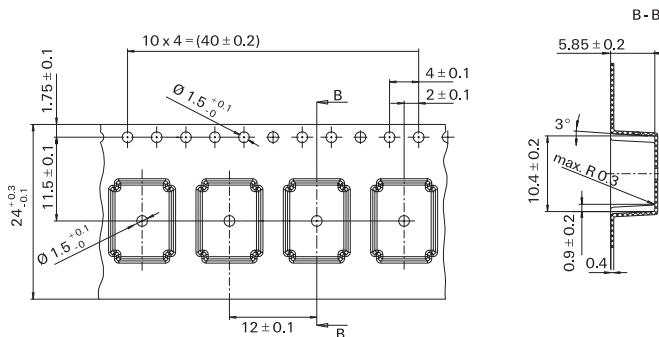
 Soldering conditions according IEC 60058-2-58 and
IPC/JEDEC J-STD-020B


Recommended reflow soldering profile

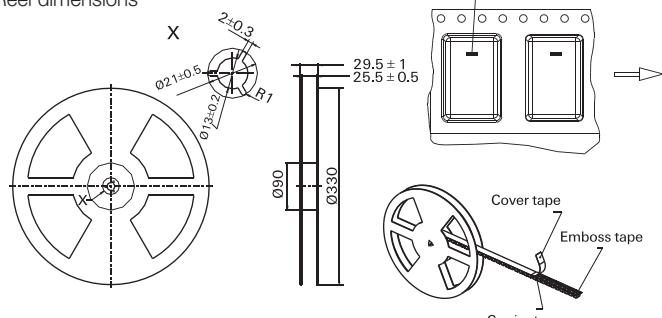


Resistance to soldering heat - Reflow profile


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 - E Relay (Continued)

| Product code structure | Typical product code | IM | E | 03 | G | R |
|----------------------------|--|--------------------------|---|----|---|---|
| Type | IM Signal Relays IM Series IMD/IME | | | | | |
| Contact arrangement | E 2 form A, 2 NO | | | | | |
| Coil | Coil code: please refer to coil versions table | | | | | |
| Performance type | Blank Standard 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 |
|--------------|-------------|------------|--------|------------|---------------|-------------|
| IME01GR | 2 form A, | Standard | 3VDC | Monostable | SMT gull wing | 1462043-1 |
| IME01TS | 2 NO | | | | THT standard | 1462043-5 |
| IME02GR | contacts | | 4.5VDC | | SMT gull wing | 1462043-2 |
| IME02TS | | | | | THT standard | 1462043-6 |
| IME03GR | | | 5VDC | | SMT gull wing | 1462043-3 |
| IME03TS | | | | | THT standard | 1462043-7 |
| IME06GR | | | 12VDC | | SMT gull wing | 1462043-4 |
| IME06TS | | | | | THT standard | 1462043-8 |