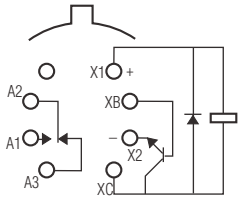
Single Pole, Electrically Held, 1 Amp and Less (Continued)

1MAT

1MAT

Standard TO-5
Diode Suppressed/
Transistor Driven
High Performance Relay

Qualified to
MIL-R-28776/5



Terminal View

Product Facts

- **Transistor driver & suppression diode**
- **Hermetically sealed**
- **High shock & vibration ratings**
- **Spreader pad**
- **Excellent RF switching**

Electrical Characteristics

Contact Arrangement — 1 Form C (SPDT)

Contact Material — Stationary — Gold/platinum/palladium/silver alloy (gold plated) Moveable — Gold/platinum/palladium/silver alloy (gold plated)

Contact Resistance — Before Life — 100 milliohms max. (measured @ 10 mA @ 6 Vdc) After Life — 200 milliohms max. (measured @ 1 A @ 28 Vdc)

Mechanical Life Expectancy — 1 million operations

Coil Voltage — 5 to 26.5 Vdc

Coil Power — 512 mW max. @ 25°C

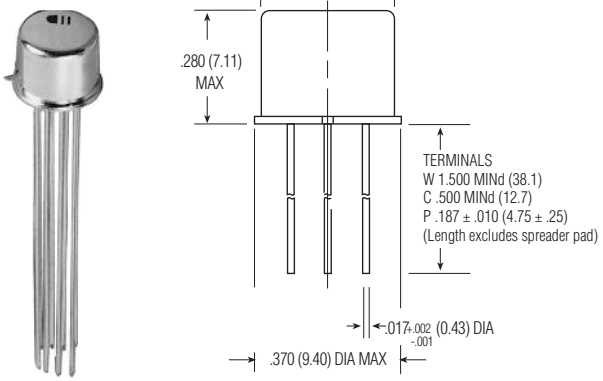
Duty Cycle — Continuous

Pick-up Voltage — Approximately 50% of nominal coil voltage

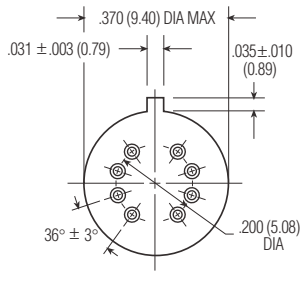
Pick-up Sensitivity — 100 mW max. @ 25°C

Contact Ratings

Contact Load	Type	Operations MINd.
1.0 A @ 28 Vdc	Resistive	100,000
250 mA @ 115 Vac, 60 Hz & 400 Hz	Resistive (case not grounded)	100,000
100 mA @ 115 Vac, 60 Hz & 400 Hz	Resistive	100,000
0.2 A @ 28 Vdc	Inductive (0.32 Henry)	100,000
0.1 A @ 28 Vdc	Lamp	100,000
30 µA @ 50 mVdc	Low Level	1,000,000
0.1 A @ 28 Vdc	Intermediate Current	50,000



1MAT Enclosure



1MAT Header

Catalog 5-1773450-5
Revised 3-13

www.te.com

Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

USA: +1 800 522 6752
Asia Pacific: +86 0 400 820 6015
UK: +44 800 267 666

For additional support numbers please visit www.te.com

Single Pole, Electrically Held, 1 Amp and Less (Continued)

1MAT (Continued)

Operating Characteristics

Timing —
Operate Time — 2.0 ms max.
Release Time —
4.0 ms max.

Contact Bounce — 1.5 ms max

Dielectric Withstanding Voltage —
Between Open Contacts —
500 Vrms 60 Hz
Between Adjacent Contacts —
500 Vrms 60 Hz
Between Contacts & Coil —
500 Vrms 60 Hz

Insulation Resistance —
10,000 megohms @ 500 Vdc
1,000 megohms @ 500 Vdc
(coil to case @ +125°C)

Environmental Characteristics

Temperature Range —
-65°C to +125°C

Weight —
0.08 oz. (2.27 grms)
0.09 oz. (2.52 grms) with spreader pad attached

Vibration Resistance —
30 G's, 10 to 3,000 Hz

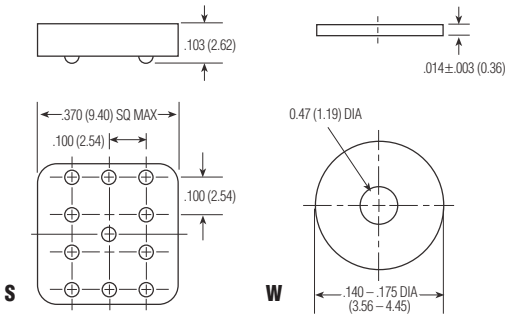
Shock Resistance —
75 G's, 6 ±1 ms max.

QPL Approval —
MIL-R-28776/5 (J1MAT)

Semiconductor Characteristics

Diode —
100 Vdc peak inverse voltage (PIV)
1.0 Vdc max. transient voltage

Transistor —
0.3 Vdc MINd. base turn off voltage;
6.0 Vdc min. emitter-base breakdown voltage (BV_{EBO}) @ 25°C;
80.0 Vdc min. collector-base breakdown voltage (BV_{CBO}) @ 25°C & I_C=100 µA



Spreader & Mounting Pads

Coil Data

Nom. Coil Voltage (Vdc)	Coil Resistance in Ohms ±10% @ 25°C (Note 1)	Coil Circuit Current mA (Max.) (Note 1&2)	Coil Circuit Current mA (MINd.) (Note 1&2)	Pickup Voltage Vdc (Max.) @ 25°C (Note 2)	Base Turn On Current mA (Max.) @ 25°C	Pickup Voltage Vdc (Max.) @ 125°C (Note 2)	Base Turn On Current mA (Max.) @ 125°C	Drop-Out Voltage Vdc (MINd.) @ 25°C (Note 2)	Drop-Out Voltage Vdc (MINd.) @ -65°C (Note 2)	Nom. Coil Power (mW) @ 25°C	Max. Coil Voltage	Coil Desig.
1MAT												
5.0	63	89.6	66.6	3.0	0.60	3.9	2.38	0.24	0.15	397	5.8	5
6.0	125	55.5	42.0	3.8	0.42	5.2	1.60	0.31	0.18	288	8.0	6
9.0	280	38.1	28.0	5.6	0.27	7.8	1.07	0.47	0.35	289	12.0	9
12.0	500	28.1	20.9	7.2	0.21	10.0	0.80	0.62	0.40	288	16.0	12
18.0	1,130	18.8	13.8	10.7	0.12	14.5	0.53	0.94	0.58	287	24.0	18
26.5	2,000	15.5	11.5	14.4	0.10	19.0	0.40	1.25	0.89	351	32.0	26

Notes: 1. Coil resistance not directly measurable. Coil current should be within limits shown when tested at nominal voltage at 25°C for 5 seconds max.
2. Set base current at 3 mA to 15 mA during measurements.

Ordering Instructions

Catalog-selected Relays: The catalog number is derived by choosing the proper CODE for each of the relay characteristics in the order in which the codes are listed.

Specifying a Part Number Example:	Type	Terminal	Diodes	Coils	Spreader/Mounting Pads
	1MA	C	T	-26	S

* The part number example shown on this page is for catalog items. For a list of specific QPL part numbers, please see the index in Section 15.

Catalog 5-1773450-5
Revised 3-13

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UK: +44 800 267 666

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Global Electronic Components Distributor

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TE Connectivity:

SBCHE64R7K 1393431-1 175977-2 2005330-1 936348-1 MPT100C18RF 2310537-1 2380312-2
3430B2F51RTDF 1743455-2 917696-1 RH73H2A40MKTN 1-794222-0 2834055-1 3631B101LL
SBCHE154R7K TE50BR39J U5254-000005-030PA 2377783-2 CRGCQ2010J3K3 SMW73R0JT 1969656-1
2-292161-3 3-1393225-0 ROX05SJ18R 1-962915-1 141991-2 1903112-2 650075-000 CPF0402B37K4E1