DB(UL) Series

UL Approved Normally Closed, High Voltage Relays - 10kV*



- *10kV Isolation*
- *Low Contact Resistance*
- *PCB or Panel Mount*
- *HV connections via Flying Leads, Solder Turret (wire wrap), or 1/4" Spade Terminals*
- *Excellent AC characteristics*

Contact Specification	Unit	Condition	10kV SPNC		
Contact Form			N/C (normally closed)		
Contact Material			Tungsten		
Isolation across contacts	kV	DC or AC peak	10		
Switching Power Max.	W		50		
Switching Voltage Max.	V	DC or AC peak	7000		
Switching Current Max.	A	DC or AC peak	2		
Carry Current Max	A	DC or AC peak	3		
Capacitance across contacts	pF	coil to screen grounded	<0.2		
Lifetime operations		dry switching	10^9		
		50W switching	10^6		
Contact Resistance	mΩ	max (typical)	250(100)		
Insulation Resistance	Ωmin	(typical)	(10^{13})		
Coil Specification			**5V**	**12V**	**24V**
Must Operate Voltage	V	DC	3.7	9	20
Must Release Voltage	V	DC	0.5	1.25	4
Operate Time	ms	diode fitted	2.0	2.0	2.0
Release Time	ms	diode fitted	3.0	3.0	3.0
Resistance	Ω		38	240	925
Relay Specification					
Isolation contact/coil	kV		17		
Insulation resistance contact to all terminals	Ωmin	(typical)	10^{10} (10^{13})		
Environmental					
Operating Temp range	ºC		-20 to +70		

*Consult factory for UL ratings

Recently approved by UL, very high isolation voltages (up to 10kV) are achieved through the use of high vacuum reed switches with Tungsten contacts and make these relays suitable for high reliability applications, such as cardiac defibrillators, test equipment and high voltage power supplies.

The Tungsten contact relays can switch higher voltages, up to 7000Vdc/ac peak to peak

PCB or Panel Mount, via Nylon studs, versions are available.

Connection options, for the HV, include PCB, solder turret(wire wrap), flying lead and 0.25" spade terminals.

Part Numbering System

D B T 7 12 10 F U

Reed Switch Size

Contact Form B =n/c

Contact Material
T=Tungsten

Moulding Ref. No.

Coil Voltage
05=5Vdc, 12=12Vdc, 24=24Vdc

Isolation between Contacts
10=10kV

"**U**" indicates UL approved

Mounting or Connection Style
No suffix indicates PCB mount
F=PCB mount & coil connection with Flying lead HV connection
P=Panel mount with wire wrap terminals
S=PCB mount & coil connection with stud fixing & 1/4" spade HV connection
T=PCB mount & coil connection with stud fixing & wire wrap HV connection

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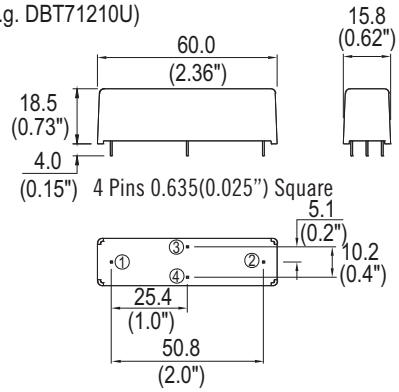
DB(UL) 2016

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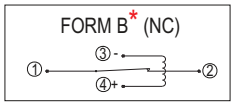
MECHANICAL

STANDARD

(e.g. DBT71210U)



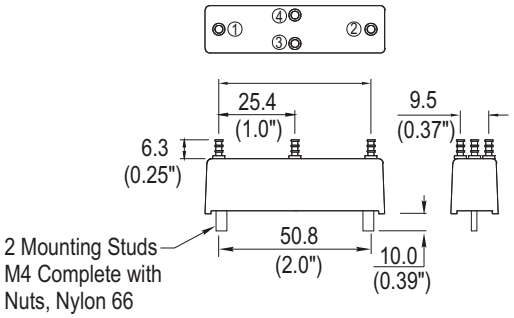
CIRCUIT DIAGRAMS
(ALL VARIANTS)



NOTE: COIL POLARITY
IS IMPORTANT

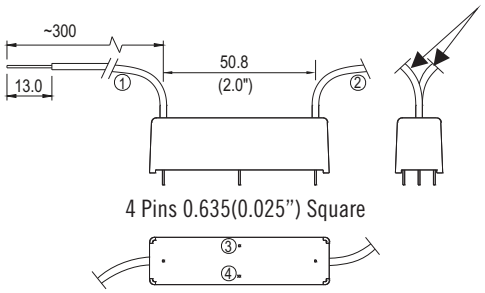
PANEL MOUNT

(e.g. DBT71210PU)



FLYING LEAD

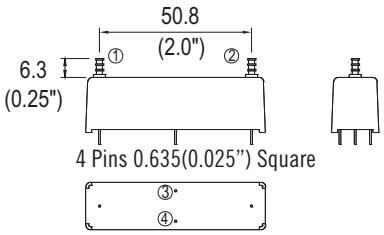
(e.g. DBT71210FU)



NOTE: PINS WHICH ARE NOT NUMBERED
HAVE NO ELECTRICAL CONNECTION.

TURRET (Wire Wrap)

(e.g. DBT71210TU)

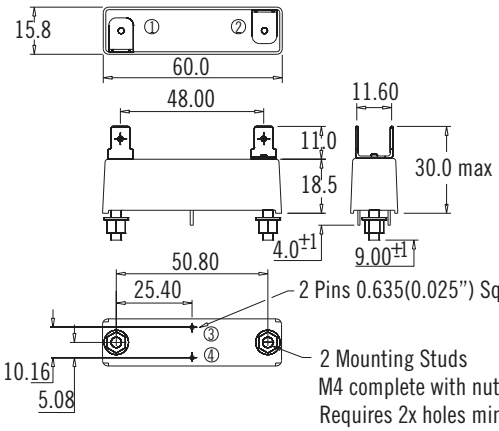


NOTE: PINS WHICH ARE NOT NUMBERED
HAVE NO ELECTRICAL CONNECTION.

SPADE TYPE

(e.g. DBT71210SU)

'S' Suffix denotes the 0.250" 'Push On'
blade connectors, M4 fixing bolts and Epoxy potting.



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