PBA150

DUAL POLE OptoMOS Relay

	PBA150	Units
Load Voltage	250	V
Load Current	250	mA
Max R_{ON}	7	Ω

Description

PBA150 is a 250V, 250mA, 7Ω independent 1-Form-A and 1-Form-B relay. This performance leader provides very low on-resistance in applications requiring both a Form-A and Form-B relay.

Features

- Small 8 Pin DIP Package
- Low Drive Power Requirements (TTL/CMOS Compatible)
- No Moving Parts
- High Reliability
- Arc-Free With No Snubbing Circuits
- $3750V_{RMS}$ Input/Output Isolation
- FCC Compatible
- VDE Compatible
- No EMI/RFI Generation
- Machine Insertable, Wave Solderable
- Surface Mount and Tape & Reel Versions Available

Approvals

- UL Recognized: File Number E76270
- CSA Certified: File Number LR 43639-10
- BSI Certified:
  - BS EN 60950:1992 (BS7002:1992) Certificate #:7344
  - BS EN 41003:1993 Certificate #:7344

Applications

- Telecommunications
  - Telecom Switching
  - Tip/Ring Circuits
  - Modem Switching (Laptop, Notebook, Pocket Size)
  - Hookswitch
  - Dial Pulsing
  - Ground Start
  - Ringer Injection
- Instrumentation
  - Multiplexers
  - Data Acquisition
  - Electronic Switching
  - I/O Subsystems
  - Meters (Watt-Hour, Water, Gas)
- Medical Equipment-Patient/Equipment Isolation
- Security
- Aerospace
- Industrial Controls

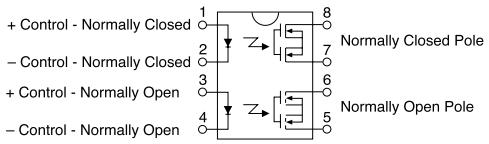
Ordering Information

Part #	Description
PBA150	8 Pin DIP (50/Tube)
PBA150S	8 Pin Surface Mount (50/Tube)
PBA150STR	8 Pin Surface Mount (1000/Reel)

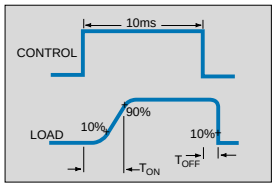
Pin Configuration

PBA150 Pinout

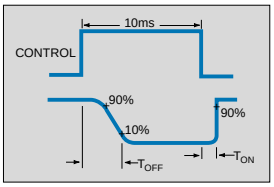
AC/DC Configuration



Switching Characteristics of Normally Open (Form A) Devices



Switching Characteristics of Normally Closed (Form B) Devices



Absolute Maximum Ratings (@ 25° C)

Parameter	Min	Typ	Max	Units
Input Power Dissipation	-	-	150[1]	mW
Input Control Current	-	-	50	mA
Peak (10ms)	-	-	1	A
Reverse Input Voltage	-	-	5	V
Total Power Dissipation	-	-	800[2]	mW
Isolation Voltage Input to Output	3750	-	-	V_{RMS}
Operational Temperature	-40	-	+85	°C
Storage Temperature	-40	-	+125	°C
Soldering Temperature	-	-	-	-
DIP Package	-	-	+260	°C
Flatpack/Surface Mount Pkg	-	-	+220	°C

Absolute Maximum Ratings are stress ratings. Functional operation of the device at these or any other conditions beyond those indicated in the operational sections of this data sheet is not implied. Exposure of the device to the absolute maximum ratings for an extended period may degrade the device and effect its reliability.

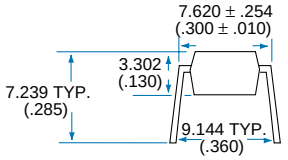
Electrical Characteristics

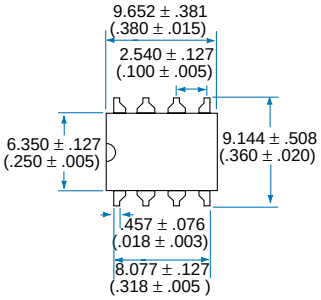
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Output Characteristics @ 25°C						
Load Voltage (Peak)	-	V_L	-	-	250	V
Load Current* (Continuous) AC/DC Configuration	-	I_L	-	-	250	mA
Peak Load Current	10ms	I_{LPK}	-	-	500	mA
On-Resistance AC/DC Configuration	I_L=250mA	R_{ON}	-	-	7	Ω
Off-State Leakage Current	V_L=250V	I_{LEAK}	-	-	1	µA
Switching Speeds						
Turn-On	I_F=5mA, V_L=10V	T_{ON}	-	-	2.5	ms
Turn-Off	I_F=5mA, V_L=10V	T_{OFF}	-	-	2.5	ms
Output Capacitance	50V; f=1MHz	C_{OUT}	-	110	-	pF
Capacitance Input to Output	-	-	-	3	-	pF
Input Characteristics @ 25°C						
Input Control Current	I_L= 250mA	I_F	5	-	50	mA
Input Dropout Current	-	I_F	0.4	0.7	-	mA
Input Voltage Drop	I_F= 5mA	V_F	0.9	1.2	1.4	V
Reverse Input Voltage	-	V_R	-	-	5	V
Reverse Input Current	V_R=5V	I_R	-	-	10	µA
Input to Output Capacitance	-	$C_{I/O}$	-	3	-	pF
Input to Output Isolation	-	$V_{I/O}$	3750	-	-	V_{RMS}

*NOTE: If both poles operate simultaneously load current must be derated so as not to exceed the package power dissipation value.

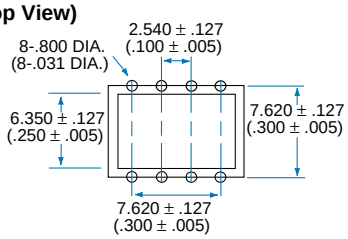
Mechanical Dimensions

8 Pin DIP Through Hole (Standard)

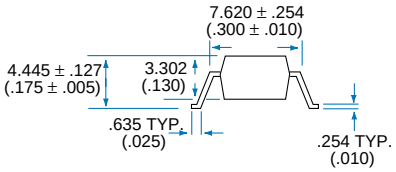


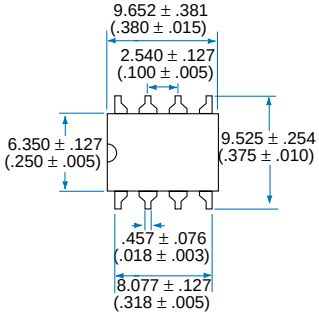


PC Board Pattern (Top View)

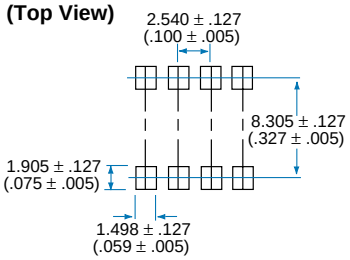


8 Pin DIP Surface Mount ("S" Suffix)

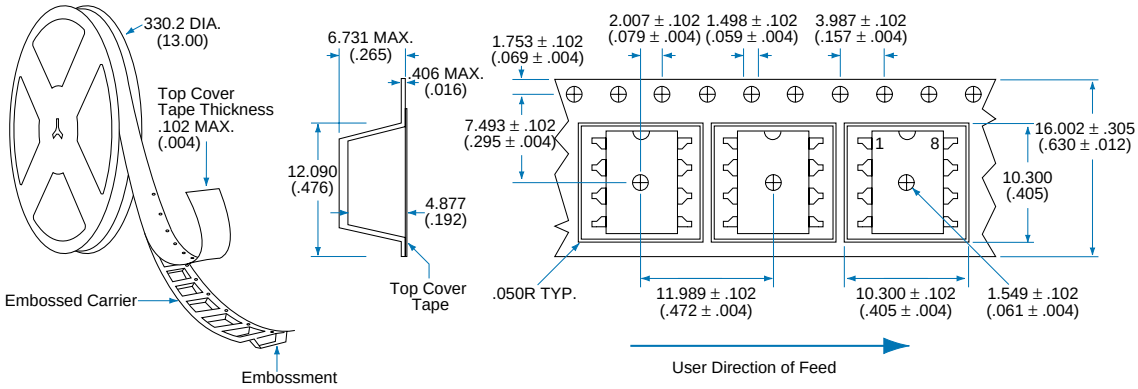




PC Board Pattern (Top View)



Tape and Reel Packaging for 8 Pin Surface Mount Package



Dimensions
mm
(inches)

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