

# AZ830

## POLARIZED DIP RELAY SINGLE SIDE STABLE

### FEATURES

- Low profile for compact board spacing
- DC coils to 48 VDC
- High sensitivity, 96 mW pickup
- Life expectancy to 100 million operations
- High switching capacity, 60 W, 125 VA
- Fits standard 16 pin IC socket
- Epoxy sealed for automatic wave soldering and cleaning
- Meets FCC Part 68.302 1500 V lightning surge
- Meets FCC Part 68.304 1000 V dielectric
- UL file E43203 (UL1950)

### CONTACTS

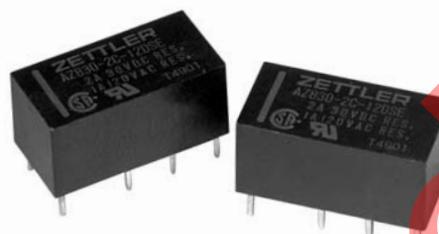
Arrangement	DPDT (2 Form C) Bifurcated crossbar contacts
Ratings	Resistive load: Max. switched power: 60 W or 125 VA Max. switched current: 2 A Max. switched voltage: 250 VDC or 300 VAC Max. carry current: 3A
Rated Load UL	2 A at 30 VDC 1 A at 120 VAC
Material	Silver alloy, gold clad.
Resistance	< 50 milliohms initially

### COIL

Power	
At Pickup Voltage (typical)	Standard coil: 200 mW Sensitive coil: 100 mW Ultra-Sensitive coil: 96 mW
Max. Continuous Dissipation	1.0 W at 20°C (68°F) 0.9 W at 40°C (104°F)
Temperature Rise	Standard: 38°C (68°F) at nominal coil voltage Sensitive: 21°C (38°F) at nominal coil voltage Ultra-Sensitive: 16°C (29°F) at nominal coil voltage
Temperature	Max. 115°C (239°F)

### NOTES

1. All values at 20°C (68°F).
2. Relay may pull in with less than "Must Operate" value.
3. Relay has fixed coil polarity.
4. For complete isolation between the relay's magnetic fields, it is recommended that a .197" (5.0 mm) space be provided between adjacent relays.
5. Relay adjustment may be affected if undue pressure is exerted on relay case.
6. Specifications subject to change without notice.



### GENERAL DATA

Life Expectancy Mechanical Electrical	Minimum operations 1 x 10 <sup>8</sup> 1 x 10 <sup>5</sup> at 2 A, 30 VDC or 1 A, 125 VAC 2 x 10 <sup>6</sup> at 1 A, 30 VDC or .5 A, 125 VAC (see table for additional figures)
Operate Time (typical)	3 ms at nominal coil voltage
Release Time (typical)	2 ms at nominal coil voltage (with no coil suppression)
Capacitance	Contact to contact: 1.0 pF Contact set to contact: 1.0 pF Contact to coil: 2.0 pF
Bounce (typical)	At 10 mA contact current 1.5 ms at operate N.O. side 2.5 ms at operate N.C. side
Dielectric Strength (at sea level)	1500 Vrms contact to coil 1000 Vrms between contact sets 1000 Vrms across contacts Meets FCC Part 68.302 lightning surge Meets FCC Part 68.304 V dielectric
Insulation Resistance	1000 megohms min. at 20°C, 500 VDC, 50% RH
Dropout	Greater than 10% of nominal coil voltage
Ambient Temperature Operating	At nominal coil voltage Standard: -40°C (-40°F) to 70°C (158°F) Sensitive: -40°C (-40°F) to 85°C (185°F) Ultra-Sensitive: -40°C (-40°F) to 90°C (194°F)
Storage	All: -40°C (-40°F) to 115°C (239°F)
Vibration	0.062" DA at 10–55 Hz
Shock	40 g
Enclosure	P.B.T. polyester
Terminals	Tinned copper alloy, P.C.
Max. Solder Temp.	270°C (518°F)
Max. Solder Time	5 seconds
Max. Solvent Temp.	80°C (176°F)
Max. Immersion Time	30 seconds
Weight	5 grams

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## RELAY ORDERING DATA

COIL SPECIFICATIONS					
STANDARD COIL				ORDER NUMBER*	
Nominal Coil VDC	Max. Continuous VDC	Coil Resistance ± 10%	Must Operate VDC		
3	4.5	22.5	2.1		AZ830-2C-3DE
5	7.5	62.5	3.5		AZ830-2C-5DE
6	9.0	90	4.2		AZ830-2C-6DE
9	13.5	203	6.3		AZ830-2C-9DE
12	18.0	360	8.4		AZ830-2C-12DE
24	36.0	1440	16.8		AZ830-2C-24DE
48	72.0	5760	33.6		AZ830-2C-48DE
SENSITIVE COIL					
3	6.4	45	2.1	AZ830-2C-3DSE	
5	10.6	125	3.5	AZ830-2C-5DSE	
9	19.1	405	6.3	AZ830-2C-9DSE	
12	25.5	720	8.4	AZ830-2C-12DSE	
24	50.9	2880	16.8	AZ830-2C-24DSE	
48	101.8	11520	33.6	AZ830-2C-48DSE	
ULTRA-SENSITIVE COIL					
3	7.3	60	2.4	AZ830-2C-3DSSE	
5	12.3	167	4.0	AZ830-2C-5DSSE	
9	22.0	540	7.2	AZ830-2C-9DSSE	
12	29.4	960	9.6	AZ830-2C-12DSSE	
24	58.8	3840	19.2	AZ830-2C-24DSSE	

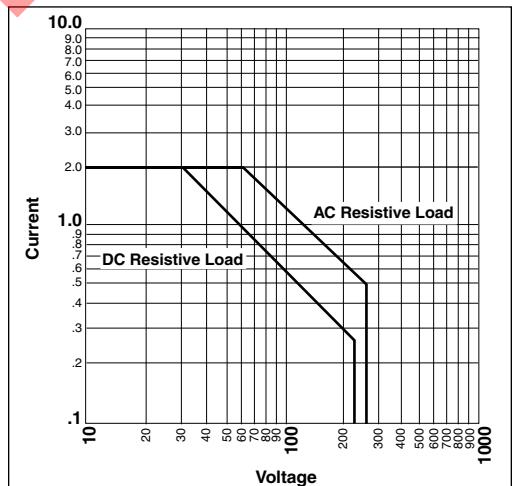
\* Add suffix “R” to indicate reversed polarity.

## **TYPICAL CONTACT LIFE EXPECTANCY**

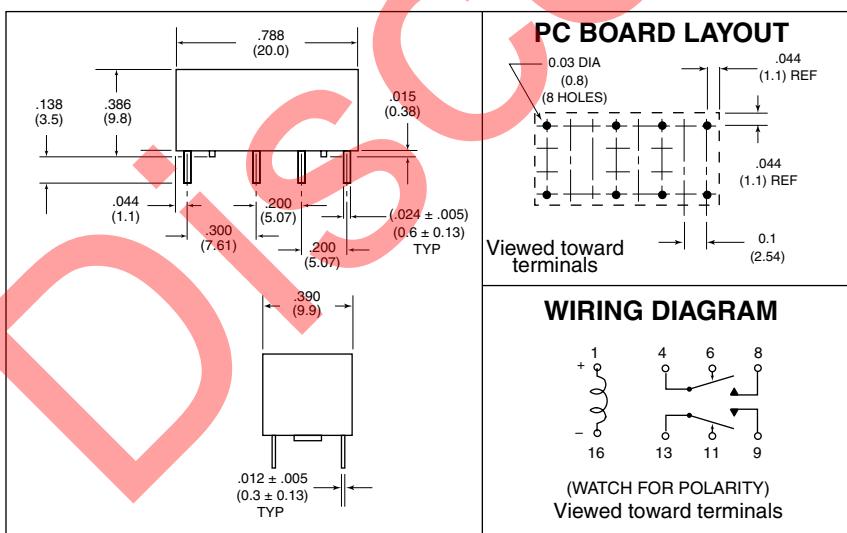
VOLTAGE	POWER	NUMBER OF OPERATIONS	
		RESISTIVE LOAD	INDUCTIVE LOAD
50 mV	50 $\mu$ W	$5 \times 10^7$	$5 \times 10^7$
30 VDC	60 W	$5 \times 10^5$	$15 \times 10^4$
30 VDC	40 W	$1 \times 10^6$	$3 \times 10^5$
30 VDC	20 W	$3 \times 10^6$	$1 \times 10^6$
60 VDC	60 W	$5 \times 10^5$	—
60 VDC	40 W	$1 \times 10^6$	—
60 VDC	20 W	$3 \times 10^6$	—
30 VAC	120 VA	$5 \times 10^5$	$15 \times 10^4$
30 VAC	80 VA	$1 \times 10^6$	$3 \times 10^5$
30 VAC	40 VA	$3 \times 10^6$	$1 \times 10^6$
60 VAC	120 VA	$5 \times 10^5$	$15 \times 10^4$
60 VAC	80 VA	$1 \times 10^6$	$3 \times 10^5$
60 VAC	40 VA	$3 \times 10^6$	$1 \times 10^6$
125 VAC	125 VA	$5 \times 10^5$	$15 \times 10^4$
125 VAC	80 VA	$1 \times 10^6$	$3 \times 10^5$
125 VAC	40 VA	$3 \times 10^6$	$1 \times 10^6$

**NOTES:** 1. Relays operated at nominal coil voltage.  
2. Inductive load tests are at 0.7 power factor.  
3. Table represents typical life figures and are not guaranteed minimums.

## Maximum Switching Capacity



## MECHANICAL DATA



Dimensions in inches with metric equivalents in parentheses. Tolerance:  $\pm .010"$

# **AMERICAN ZETTLER, INC.**