mail

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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B10 RF Relays



Ball Grid Array Relays

Coto's Ball Grid Array (BGA) construction offers a breakthrough in reed relay performance. This patented technology¹ allows for shorter RF paths in a controlled 50 Ω environment to minimize signal attentuation. The designer is now able to switch or pass signals with wider bandwidth and faster rise time than alternative technologies. This is particularly important in Mixed Signal IC testers. BGA packaging allows relays to be integrated easily on boards designed for surface mount processing.

Series Features

- BGA Surface Mount
- Ability to pass GHz signals
- Rise time $< 40\rho$ Sec
- 50Ω Characteristic Impedance
- Low Capacitance
- Patented Design¹

Applications

- IC Testers
- In-Line Relay Testers
- Memory Testers
- ♦ Mixed Signal Testers
- High Bandpass Applications

Dimensions in Inches (Millimeters)









Notes:

¹ Protected by one or more of the following U.S. patents or patents pending: 6025768, 6052045, 6294971; and other foreign patents.

B10 RF Relays

				B10		
Tes	t Parameters	Conditions ^{1,2}	Min	Тур	Max	Units
Coil Resistance			49.5	55.0	60.5	Ω
Nominal Voltage		3.3V Coil		5.0	4.0	Volts DC
Must Operate Voltage					2.4	Volts DC
Must Release Voltage			0.4			Volts DC
Coil Resistance			135.0	150.0	165.0	Ω
Nominal Voltage		5V Coil		5.0	6.0	Volts DC
Must Operate Voltage					3.8	Volts DC
Must Release Voltage			0.4			Volts DC
Switching Voltage		Max DC/Peak AC			125	Volts
Switching Current					0.25	Amps
Carry Current (Continuous)		Switch and Shield			0.5	Amps
Contact Rating (Resistive Load)		Resistive Load			3.0	Watts
Life Expectancy	Signal Switching ³	1VDC / 10mA		1000		x 10 ⁶ Ops
	Resistive Load ³	12VDC / 10mA		1		$ ext{x} 10^{6} ext{ Ops}$
	Other Load Conditions ³	Consult Factory				
Static Contact Resistance (initial)		0.05VDC / 10mA			0.125	Ω
Dynamic Contact Resistance (initial)		0.5V / 50mA 100 Hz, 1.5 mSec			0.150	Ω
Insulation Res	All Isolated Pins	100VDC	10^{-10}	10^{12}		Ω
Capacitance	Across Contacts	Shield Guarding		0.2		pF
Capacitance	Open Contact to Coil	Shield Guarding		0.5		pF
Capacitance	Closed Contact to Coil	Shield Guarding		1		pF
	Across Contacts	$100\mu\mathrm{A}$	150			V (DC/Pk AC)
Dielectric	Contact to Coil	$100\mu\mathrm{A}$	1500			V (DC/Pk AC)
Strength	Contact to Shield	$100\mu\mathrm{A}$	1500			V (DC/Pk AC)
	<i></i>					~
Operate Time	(including bounce)	Nominal Voltage coil drive @ 30 Hz,		100	200	μSec
Release Time	(Si diode damped)	square wave		30	50	μSec
RF Insertion Loss ⁴		-3 dB roll-off frequency	10.0			GHz
Signal Rise Time	(10% - 90%)	Corrected for measurement			40	pSec
		system response time				

NOTES:

¹All parameters specified per EIA/NARM standards for dry reed relays, # RS-421 and RS-436, if a suitable parametric standard exists.
²Unless otherwise noted, all parameters are specified at 25°C and 40% RH.
³Life expectancies based on characteristic life (63.2% failure) calculated from the 2-parameter Weibull distribution. Contact resistance >2.0Ω defines end of life.

⁴Frequency at which the difference between output and input signal amplitude exceeds -3dB. (Direct wired using 50Ω coaxial cable.)

ENVIRONMENTAL RATINGS:

Storage Temperature: -35°C to +100°C. Operating Temperature: -20°C to +85°C. Vibration: sinusoidal vibration with an amplitude of 10G over a 10Hz to 2000Hz frequency range shall not cause a closed channel activated at the nominal coil voltage to open, not an open channel to close. Max Soldering Temperature: 226°C (438°F) max for 1 minute dwell time. Temperature measured at a relay ball termination.