



DESCRIPTION

XBA170 is 350V, 100mA, 50Ω independent 1-Form-A and 1-Form-B relays. It provides an economical solution where cost is critical and high performance is not a necessity.

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

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

APPROVALS

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

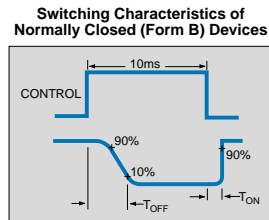
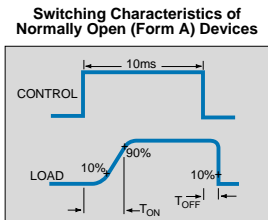
OPTIONS / SUFFIXES

- P: Flatpack Package
- S: Surface Mount Package
- TR: Tape & Reel

RATINGS (@ 25° C)

Parameter	Min	Typ	Max	Units
Input Power Dissipation	-	-	150 ¹	mW
Input Control Current Peak (10ms)	-	-	50	mA
Reverse Input Voltage	-	-	1	A
Total Power Dissipation	-	-	5	V
Capacitance Input to Output	-	3	800 ²	mW
Isolation Voltage Input to Output	-	-	-	pF
Operational Temperature	3750	-	-	V _{RMS}
Storage Temperature	-40	-	+85	°C
Soldering Temperature DIP Package	-40	-	+125	°C
Soldering Temperature Flatpack/Surface Mount Package	-	-	+260	°C
Soldering Temperature Package (10 Seconds Max.)	-	-	+220	°C

¹ Derate Linearly 1.33 mw/°C
² Derate Linearly 6.67 mw/°C



Note: For Mechanical Dimensions See Pages 408-415

www.clare.com

DUAL POLE OptoMOS® RELAYS

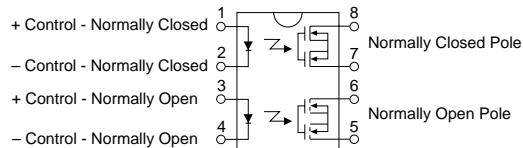
XBA170

SPECIFICATIONS

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Output Characteristics @ 25°C						
Load Voltage (Peak)	-	V_L	-	-	350	V
Load Current* (Continuous) AC/DC Configuration	-	I_L	-	-	100	mA
Peak Load Current	10ms	I_{LPK}	-	-	350	mA
On-Resistance AC/DC Configuration	$I_L=120mA$	R_{ON}	-	33	50	Ω
Off-State Leakage Current	$V_L=350V$	I_{LEAK}	-	-	1	μA
Switching Speeds						
Turn-On	$I_F=5mA, V_L=10V$	T_{ON}	1	-	5	ms
Turn-Off	$I_F=5mA, V_L=10V$	T_{OFF}	1	-	5	ms
Output Capacitance	50V; f=1MHz	C_{OUT}	-	25	-	pF
Input Characteristics @ 25°C						
Input Control Current	$I_L=$ Load Current	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}

XBA170 Pinout

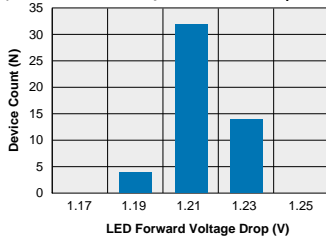
AC/DC Configuration



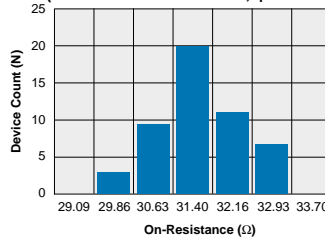
Note: For Mechanical Dimensions See Pages 408-415

PERFORMANCE DATA

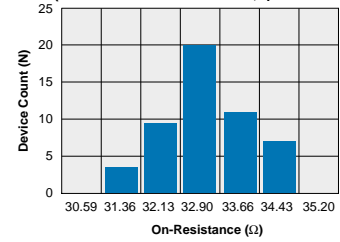
XBA170
Typical LED Forward Voltage Drop
(N=50 Ambient Temperature = 25°C; I_F = 5mA DC)



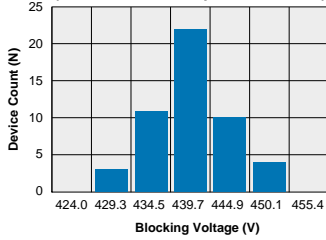
XBA170 - FormA
Typical On-Resistance Distribution
(N=50 Ambient Temperature = 25°C)
(Load Current = 100mA DC, I_F=5mA DC)



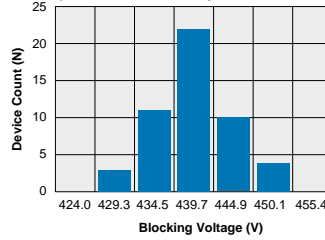
XBA170 - FormB
Typical On-Resistance Distribution
(N=50 Ambient Temperature = 25°C)
(Load Current = 100mA DC, I_F=5mA DC)



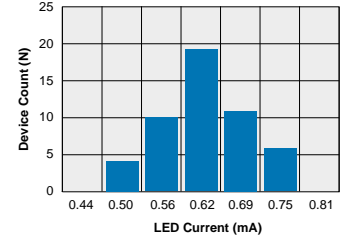
XBA170 - FormA
Typical Blocking Voltage Distribution
(N=50 Ambient Temperature = 25°C)



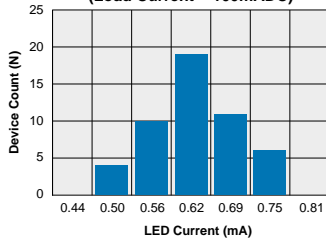
XBA170 - FormB
Typical Blocking Voltage Distribution
(N=50 Ambient Temperature = 25°C)



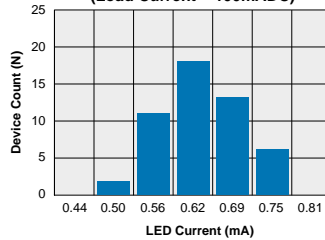
XBA170 - FormA
Typical I_F for Switch Operation
(N=50 Ambient Temperature = 25°C)
(Load Current = 100mA DC)



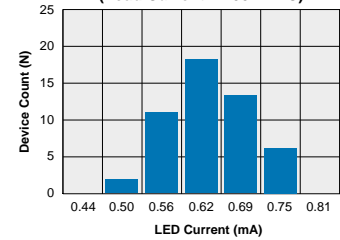
XBA170 - FormB
Typical I_F for Switch Operation
(N=50 Ambient Temperature = 25°C)
(Load Current = 100mA DC)



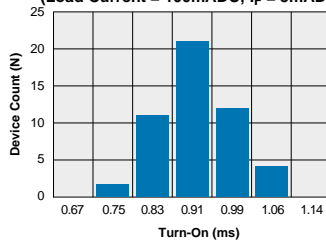
XBA170 - FormA
Typical I_F for Switch Dropout
(N=50 Ambient Temperature = 25°C)
(Load Current = 100mA DC)



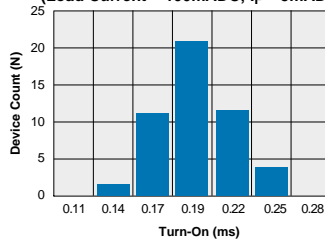
XBA170 - FormB
Typical I_F for Switch Dropout
(N=50 Ambient Temperature = 25°C)
(Load Current = 100mA DC)



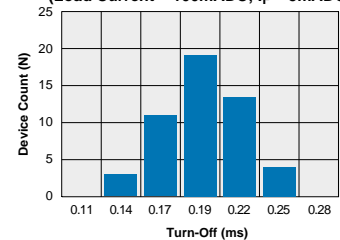
XBA170 - FormA
Typical Turn-On Time
(N=50 Ambient Temperature = 25°C)
(Load Current = 100mA DC; I_F = 5mA DC)



XBA170 - FormB
Typical Turn-On Time
(N=50 Ambient Temperature = 25°C)
(Load Current = 100mA DC; I_F = 5mA DC)



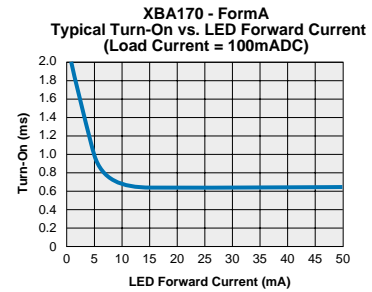
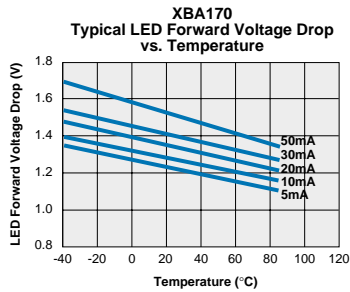
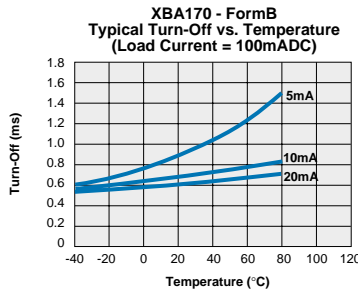
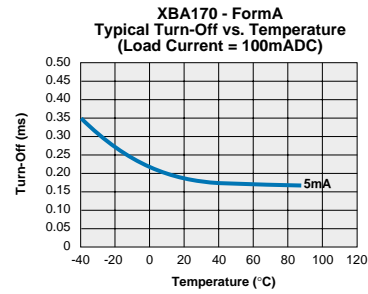
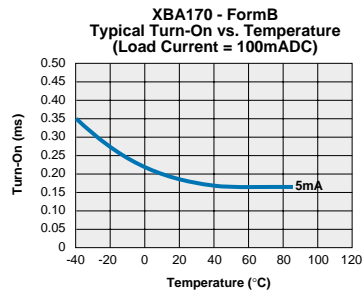
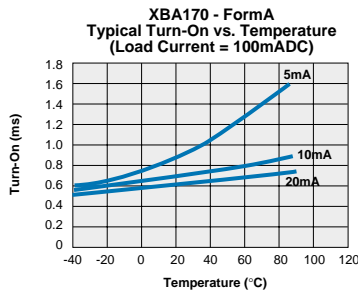
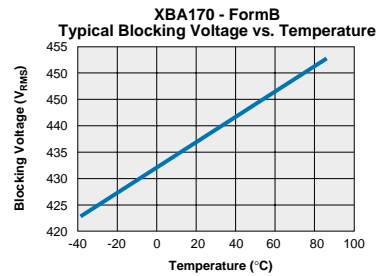
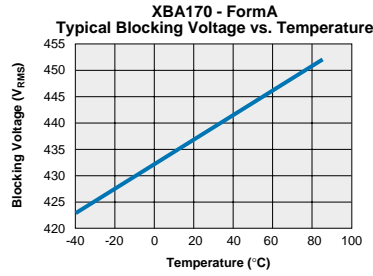
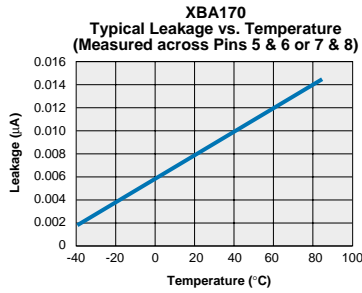
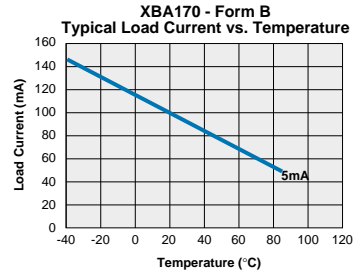
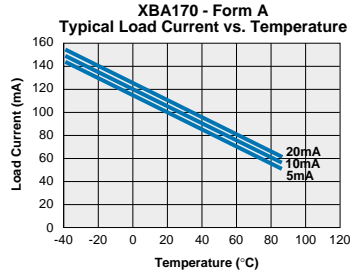
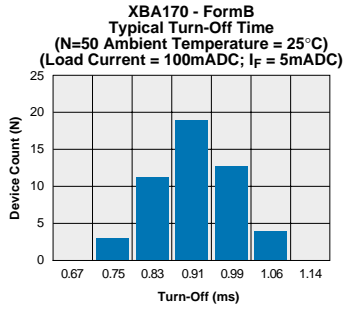
XBA170 - FormA
Typical Turn-Off Time
(N=50 Ambient Temperature = 25°C)
(Load Current = 100mA DC; I_F = 5mA DC)



DUAL POLE OptoMOS[®] RELAYS

XBA170

PERFORMANCE DATA



PERFORMANCE DATA

