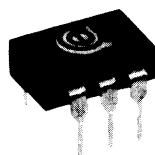


OptoMOS®

AC/DC Solid State Switches



Engineering Specifications	LAA110	LAA120	LBA110	LBA120	LBB110	LBB120	LCC110	LCC120	OAA160
Output Characteristics									
Peak Blocking (V)	350	250	350	250	350	250	350	250	250
Continuous Rated Load (mA)*	120	170	120	170	120	170	120	170	20
Peak Load/10msec (mA)	350	400	350	400	350	400	350	350	100
On Resistance (Ohms)									
Minimum	15	7	15	7	15	7	15	7	100
Maximum	35	20	35	20	35	20	35	20	225
Switching Time (Max)									
I _{CONTROL} (mA)	5	5	5	5	5	5	8	10	10
T _{ON} (msec)	3	5	3	5	3	5	4	5	.125
T _{OFF} (msec)	3	5	3	5	3	5	4	5	.125
Off State Leakage (Max) at Full Rated Voltage (μA)	1	1	1	1	1	1	1	1	.025
Typical Capacitance at 0 Volts (pF)	25	50	25	50	25	50	25	50	3

*I_{LOAD} derates to 80% if both poles are operated simultaneously.

Input Characteristics									
Control Current (mA)*									
Minimum	5	5	5	5	5	5	8	10	10
Maximum	50	50	50	50	50	50	50	50	50
Voltage Drop (V)									
Minimum	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Maximum	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Reverse Voltage (max V)	5	5	5	5	5	5	5	5	5
Reverse Leakage (max μA)	10	10	10	10	10	10	10	10	10
Input/Output (Capacitance, pF)	3	3	3	3	3	3	3	3	3

*I_{CONTROL} represents the forward LED current used to activate the switch.

Features:

- Rated to 350V AC or DC
- Load current to 170 mA
- Optical isolation to 3750V
- No EMI/RFI generation
- 100% dv/dt immunity
- Machine insertable/wave solderable
- SMD versions available
- UL recognized
- No minimum load voltage or current

Absolute Maximum Ratings

Parameter	Min	Max	Units
Input/Output Isolation	2500	—	V _{RMS}
Optional "E" Suffix	3750	—	V _{RMS}
Operating Temperature	-40	85	°C
Storage Temperature	-40	125	°C
Soldering Temperature (10 seconds on leads)	—	260	°C

When ordering CP Clare Theta-J solid state switches, a suffix may be added to the part number to specify the following options:

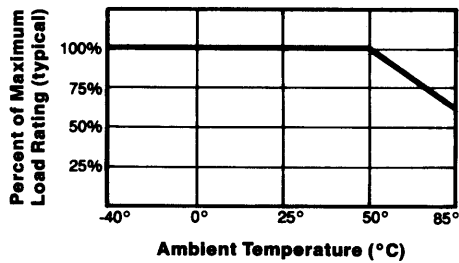
Suffix	Option
E	3,750 Isolation Voltage
S	Gull-Wing Package*
B	Butt End-Cut Package*
T/R	Tape and Reel Package*
L	Current Limiting Version

Note: Special part numbers are available on an application/request basis.

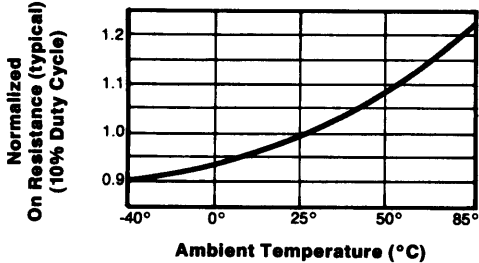
*Please request Application Brief 114 for more information about these packaging styles.

Performance

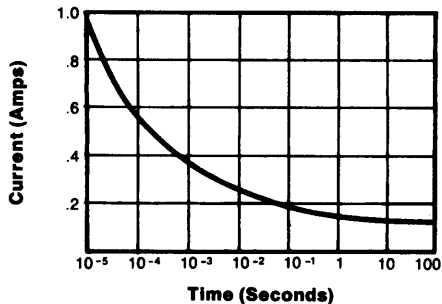
Load vs. Temperature



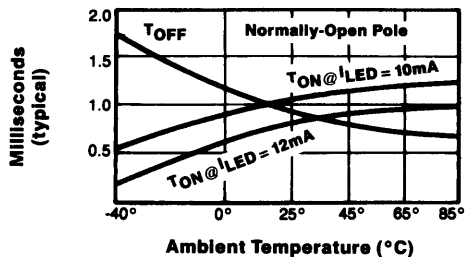
On Resistance vs. Temperature



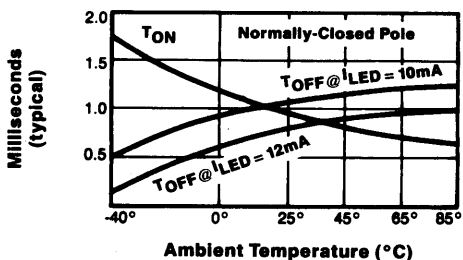
Energy Rating



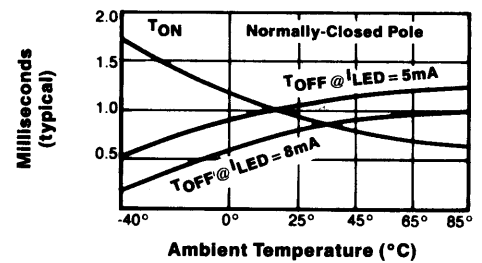
Switching Time vs. Temperature (LCC Series)



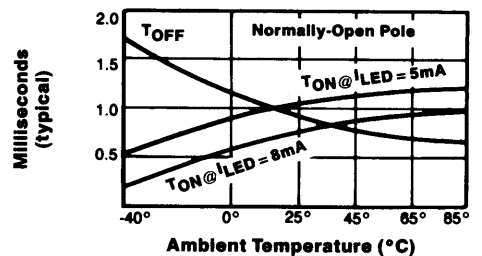
Switching Time vs. Temperature (LCC Series)



Switching Time vs. Temperature (LBA Series)



Switching Time vs. Temperature (LBA Series)

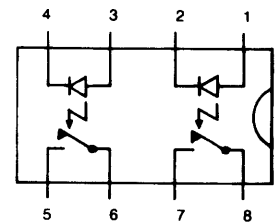


Equivalent Circuit

LAA/OAA

LAA/OAA 110/120 PIN CONNECTIONS:

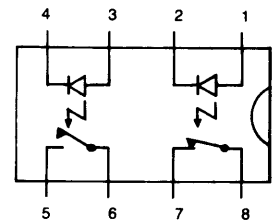
- 1, 2 Control, Pole 1
- 3, 4 Control, Pole 2
- 5, 6 Normally-Open Pole 2
- 7, 8 Normally-Open Pole 1



LBA

LBA 110/120 PIN CONNECTIONS:

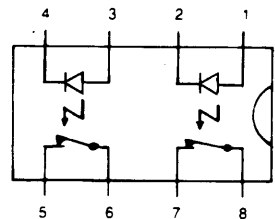
- 1, 2 Normally-Closed Control
- 3, 4 Normally-Open Control
- 5, 6 Normally-Open Pole
- 7, 8 Normally-Closed Pole



LBB

LBB 110/120 PIN CONNECTIONS:

- 1, 2 Control, Pole 1
- 3, 4 Control, Pole 2
- 5, 6 Normally-Closed Pole 2
- 7, 8 Normally-Closed Pole 1



LCC

LCC 110/120 PIN CONNECTIONS:

- 1 N/C
- 2 + Control
- 3 - Control
- 4 Do Not Use
- 5, 6 Normally-Open Pole
- 7, 8 Normally-Closed Pole

