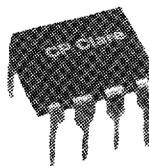


# OptoMOS<sup>®</sup>

## AC/DC Solid State Switches



Engineering Specifications	LAA110	LAA120	LBA110	LBA120	LBB110	LBB120	LCC110	LCC120	OAA160
<b>Output Characteristics</b>									
<b>Peak Blocking (V)</b>	350	250	350	250	350	250	350	250	250
<b>Continuous Rated Load (mA)*</b>	120	170	120	170	120	170	120	170	50
<b>Peak Load/10msec (mA)</b>	350	400	350	400	350	400	350	350	100
<b>On Resistance (Ohms)</b>									
Typical	23	12	23	16	23	16	23	16	50
Maximum	35	20	35	20	35	20	35	20	100
<b>Switching Time (Max)</b>									
I <sub>CONTROL</sub> (mA)	5	5	5	5	5	5	8	10	10
T <sub>ON</sub> (msec)	3	5	3	5	3	5	4	5	.125
T <sub>OFF</sub> (msec)	3	5	3	5	3	5	4	5	.125
<b>Off State Leakage (Max) at Full Rated Voltage (μA)</b>	1	1	1	1	1	1	1	1	.025
<b>Typical Capacitance at 0 Volts f = 1MHz (pF)</b>	25	50	25	50	25	50	25	50	5

\*I<sub>LOAD</sub> derates to 80% if both poles are operated simultaneously.

<b>Input Characteristics</b>									
<b>Control Current (mA)*</b>									
Minimum	5	5	5	5	5	5	8	10	10
Maximum	100	100	100	100	100	100	100	100	100
<b>Voltage Drop (V)</b>									
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
<b>Reverse Voltage (max V)</b>	5	5	5	5	5	5	5	5	5
<b>Reverse Leakage (max μA)</b>	10	10	10	10	10	10	10	10	10
<b>Input/Output (Capacitance, pF)</b>	3	3	3	3	3	3	3	3	3

\*I<sub>CONTROL</sub> 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 <sub>RMS</sub>
Optional "E" Suffix	3750	—	V <sub>RMS</sub>
Operating Temperature	-40	85	°C
Storage Temperature	-40	125	°C
Soldering Temperature (10 seconds on leads)	—	260	°C

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

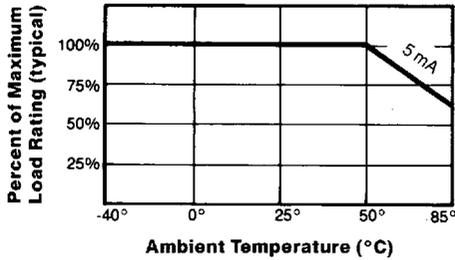
Suffix	Option
E	3,750 Isolation Voltage
S	Gull-Wing Package*
T/R	Tape and Reel Package*
L	Current Limiting Version

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

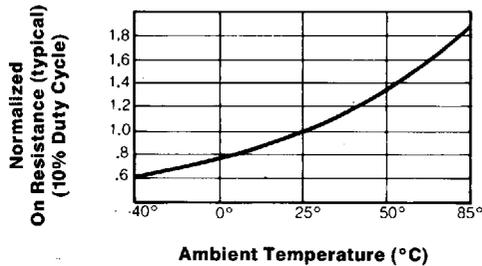
\*For a complete listing of CP Clare Solid State Products ask for our SSP15 catalog.

### Performance

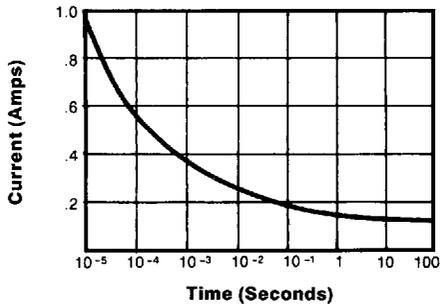
Load vs. Temperature



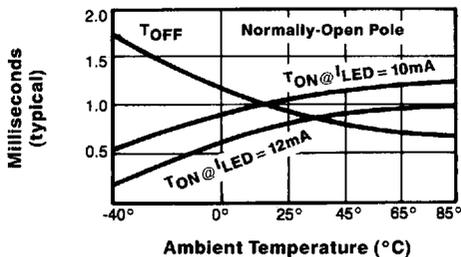
On Resistance vs. Temperature



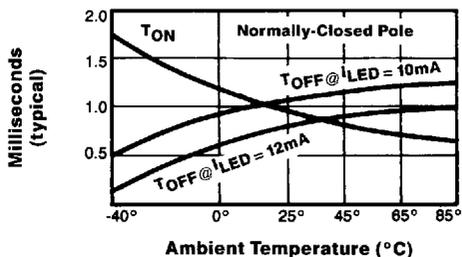
Energy Rating



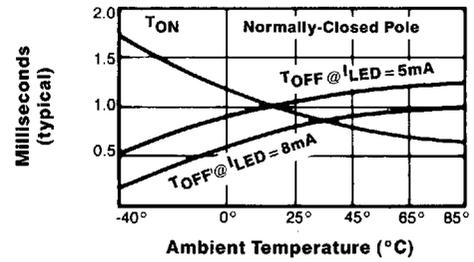
Switching Time vs. Temperature (LCC Series)



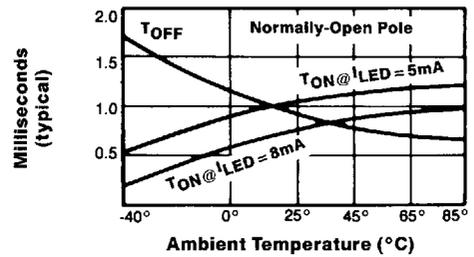
Switching Time vs. Temperature (LCC Series)



Switching Time vs. Temperature (LBA Series)



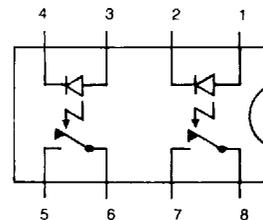
Switching Time vs. Temperature (LBA Series)



### Equivalent Circuit

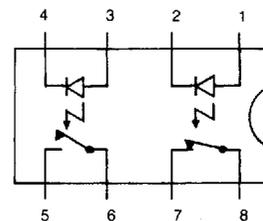
#### LAA/OAA

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



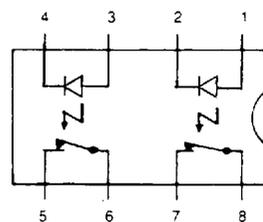
#### LBA

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



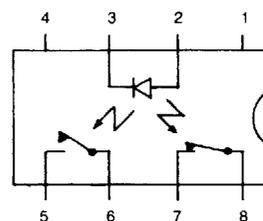
#### LBB

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

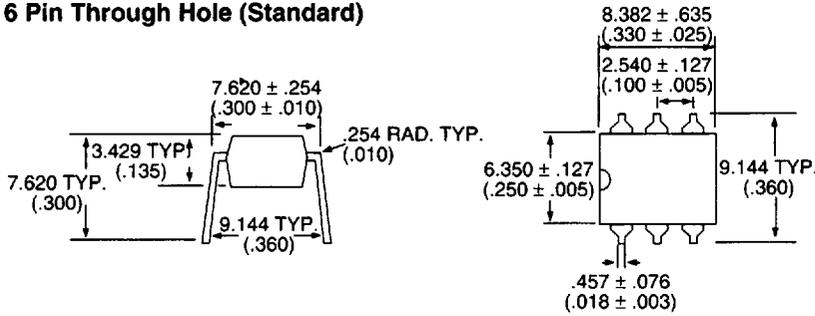


#### LCC

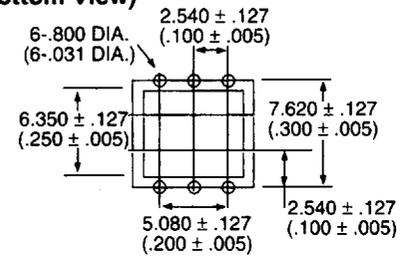
LCC 110/120 PIN  
 CONNECTIONS:  
 1 N/C  
 2 + Control  
 3 - Control  
 4 Do Not Use  
 5, 6 Normally-Open Pole  
 7, 8 Normally-Closed Pole



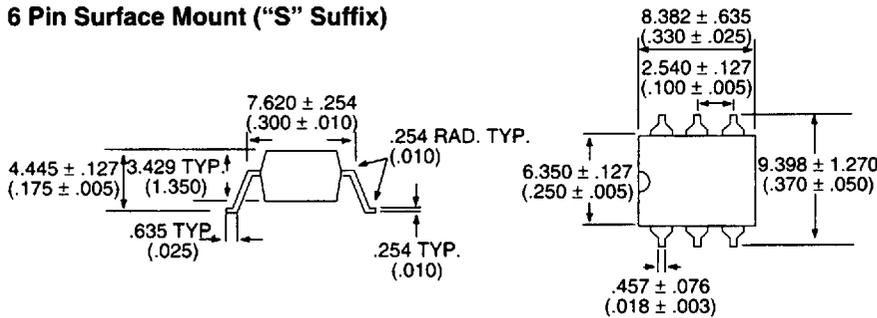
**6 Pin Through Hole (Standard)**



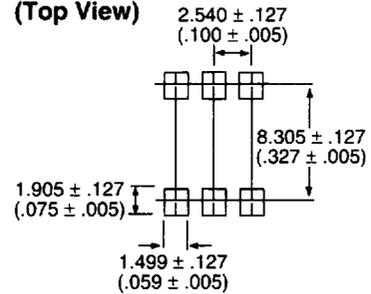
**6 Pin PC Board Pattern (Bottom View)**



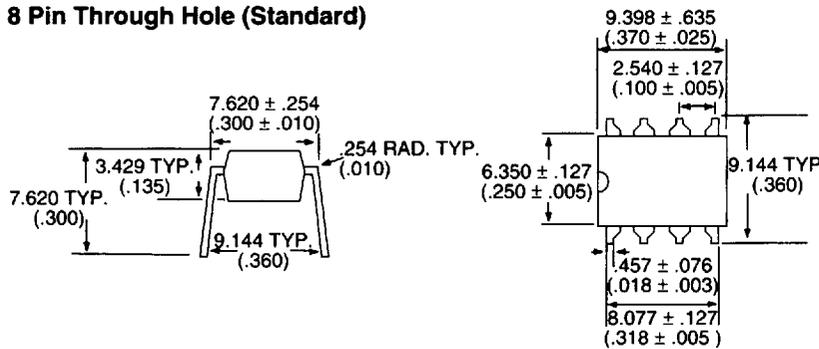
**6 Pin Surface Mount ("S" Suffix)**



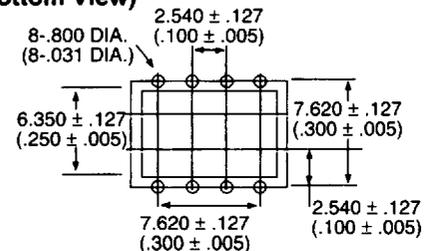
**6 Pin Mounting Pad (Top View)**



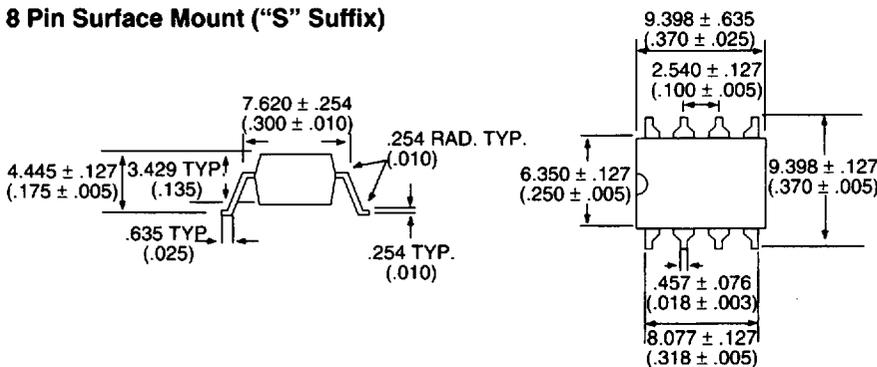
**8 Pin Through Hole (Standard)**



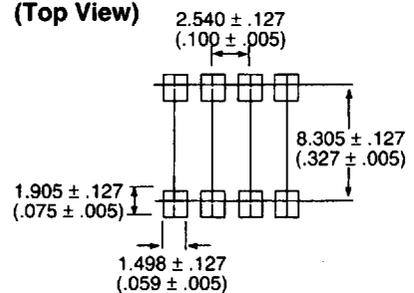
**8 Pin PC Board Pattern (Bottom View)**



**8 Pin Surface Mount ("S" Suffix)**

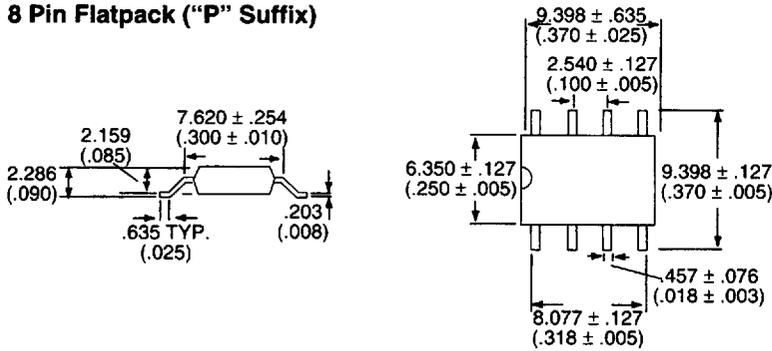


**8 Pin Mounting Pad (Top View)**

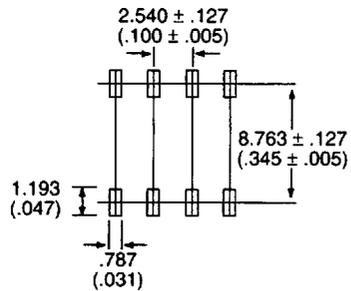


DIMENSIONS  
mm  
(Inches)

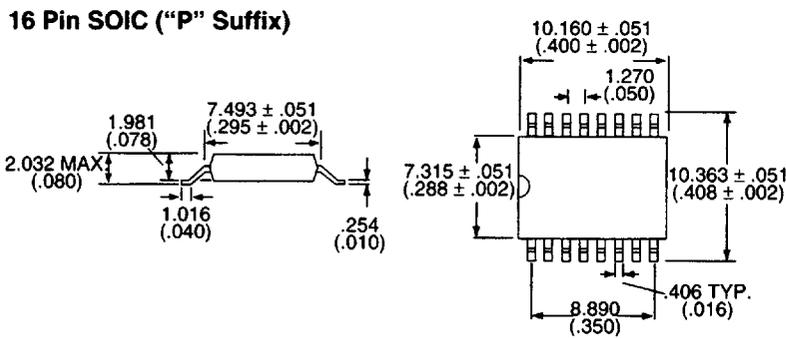
**8 Pin Flatpack ("P" Suffix)**



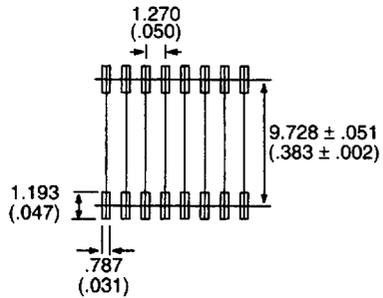
**8 Pin Flatpack Mounting Pad (Top View)**



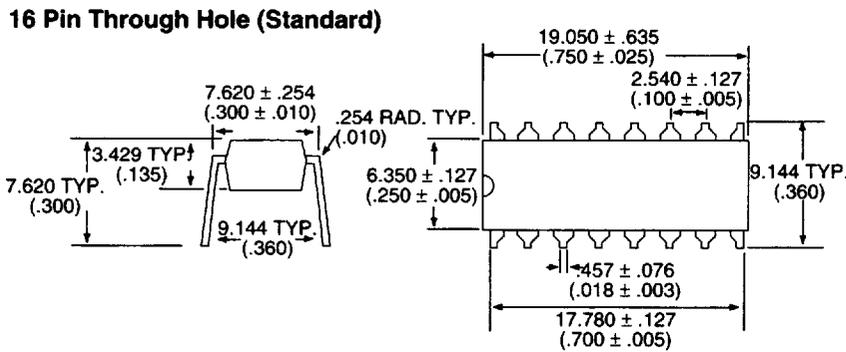
**16 Pin SOIC ("P" Suffix)**



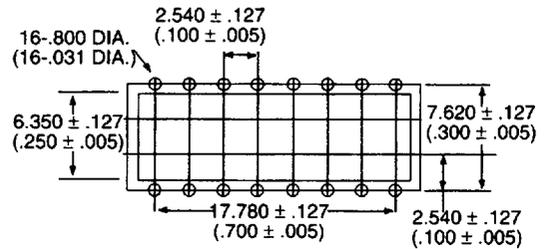
**16 Pin SOIC Mounting Pad (Top View)**



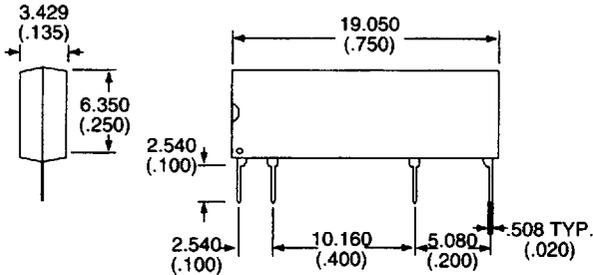
**16 Pin Through Hole (Standard)**



**16 Pin PC Board Pattern (Bottom View)**

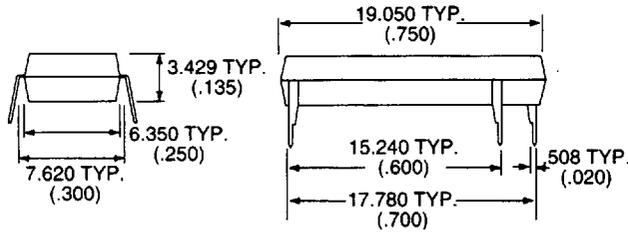


**8 Pin SIP**

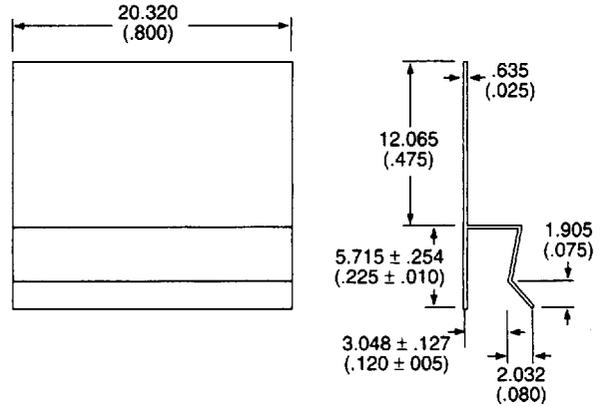


DIMENSIONS  
mm  
(Inches)

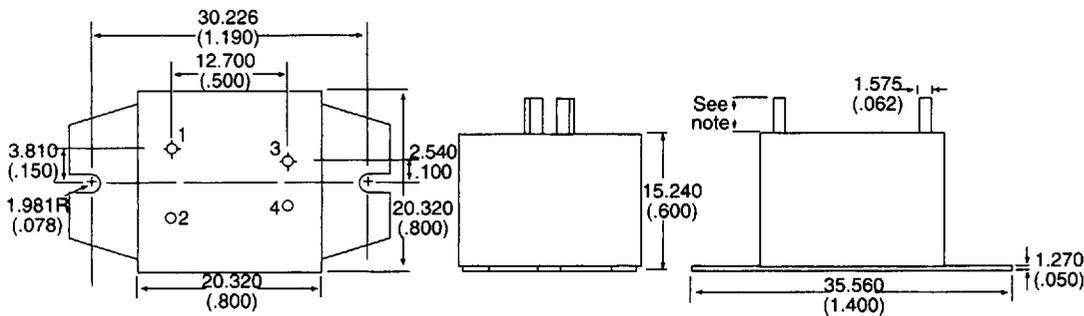
**16 Pin DIP**



**Thermal Clip**

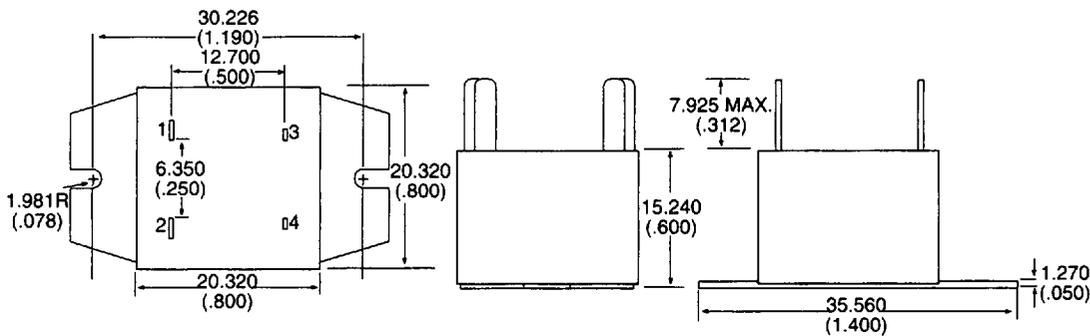


**OptoFILM® 10A Series, Pins**

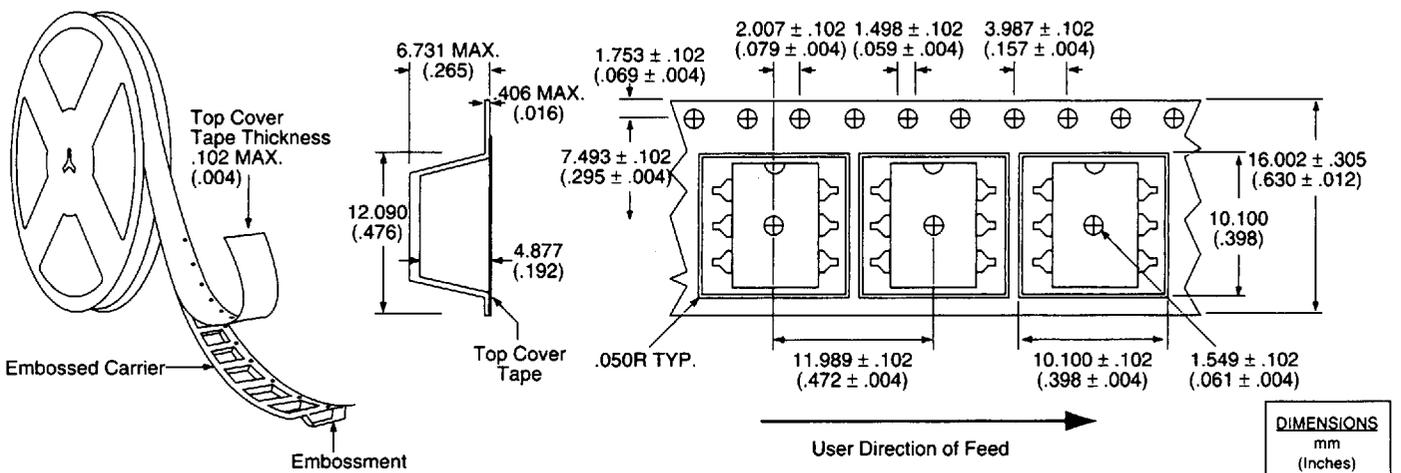


Note: Specify "-1" (0.300" pins)  
 Specify "-3" (0.175" pins)

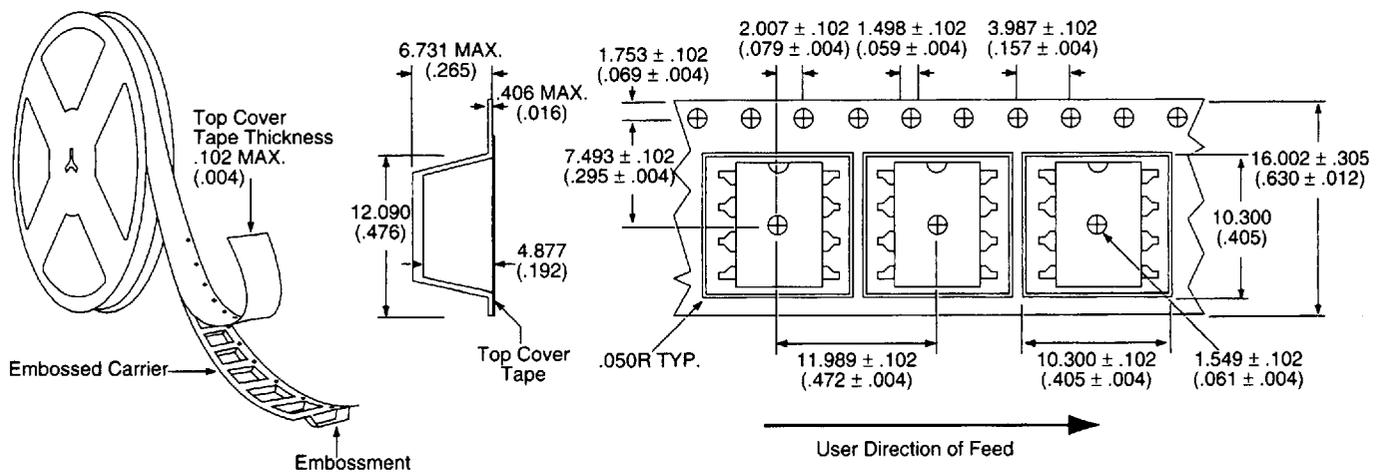
**OptoFILM® 10A Series, Quick Connect**



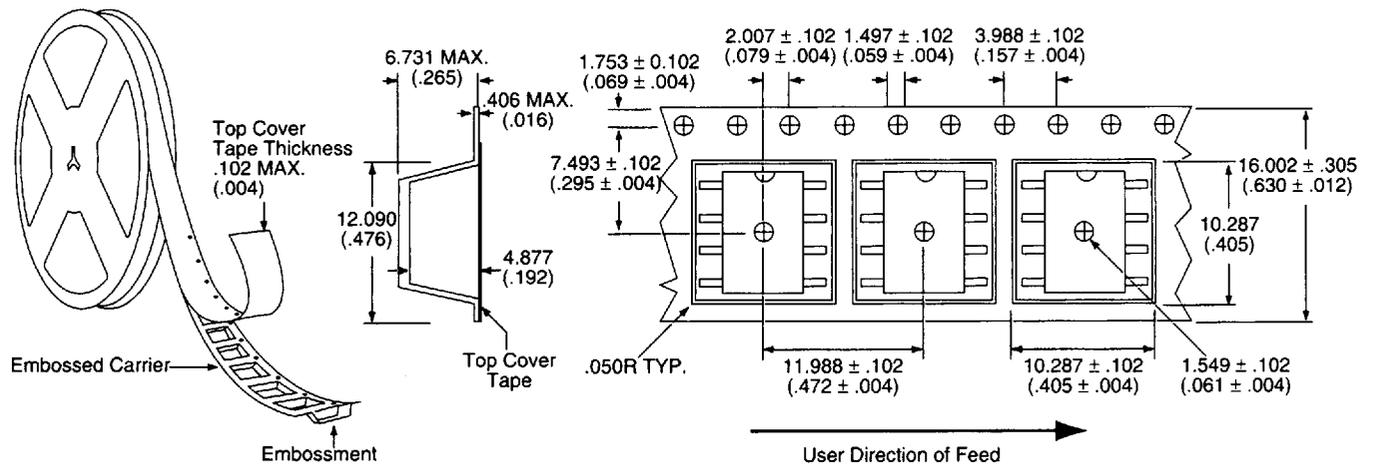
**Tape and Reel Packaging for 6 Pin Surface Mount Package**



**Tape and Reel Packaging for 8 Pin Surface Mount Package**



**Tape and Reel Packaging for 8 Pin Flatpack Package**



**Tape and Reel Packaging for 16 Pin SOIC Package**

