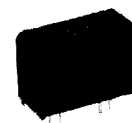


# PowerBLOC

## Solid State Switches



| Engineering Specifications                                                 | JT(*)<br>1205-(X) | JT(*)<br>2405-(X) | JT(*)<br>1210-(X) | JT(*)<br>2410-(X) | JT(*)<br>2415-(X) | MX1               | MX100             | MX200             |
|----------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| <b>Output Characteristics</b>                                              |                   |                   |                   |                   |                   |                   |                   |                   |
| <b>Peak Blocking (V)</b>                                                   | 400               | 500               | 400               | 500               | 500               | 40                | 400               | 500               |
| <b>Output Rating (A/V<sub>RMS</sub>)</b>                                   | 5/120             | 5/240             | 10/120            | 10/240            | 15/240            | 1.5/24            | 1.5/120           | 1.5/240           |
| <b>Max Off-State Leakage Current at Full Rated Load Voltage (mA)</b>       | 1.0               | 1.0               | 1.0               | 1.0               | 1.0               | 1.0               | 1.0               | 1.0               |
| <b>Max On-State Voltage Drop (V<sub>RMS</sub>)</b>                         | 1.5               | 1.5               | 1.5               | 1.5               | 1.5               | 1.5               | 1.5               | 1.5               |
| <b>Critical Rate of Rise Voltage dv/dt (V/μsec @ 60°C tab temperature)</b> |                   |                   |                   |                   |                   |                   |                   |                   |
| Minimum                                                                    | 75                | 75                | 75                | 75                | 75                | 75                | 75                | 75                |
| <b>Max Holding Current (mA)</b>                                            | 1.0               | 1.0               | 1.0               | 1.0               | 1.0               | 1.0               | 1.0               | 1.0               |
| <b>Typical Response Time (msec @ 60Hz)</b>                                 | 32                | 32                | 32                | 32                | 32                | 32                | 32                | 32                |
| <b>Applied Load Voltage Before Turn-on (VAC)</b>                           |                   |                   |                   |                   |                   |                   |                   |                   |
| MX1                                                                        | 5                 | 5                 | 5                 | 5                 | 5                 | 5                 | 5                 | 5                 |
| Other than MX1                                                             | 25                | 25                | 25                | 25                | 25                | 25                | 25                | 25                |
| <b>Operating Frequency (Hz)</b>                                            |                   |                   |                   |                   |                   |                   |                   |                   |
| Minimum                                                                    | 20                | 20                | 20                | 20                | 20                | 20                | 20                | 20                |
| Maximum                                                                    | 500               | 500               | 500               | 500               | 500               | 500               | 500               | 500               |
| <b>Input Characteristics</b>                                               |                   |                   |                   |                   |                   |                   |                   |                   |
| <b>Control Voltage (DC)</b>                                                |                   |                   |                   |                   |                   |                   |                   |                   |
| Minimum (JTA)                                                              | 4                 | 4                 | 4                 | 4                 | 4                 | 2 <sup>(1)</sup>  | 2 <sup>(1)</sup>  | 2 <sup>(1)</sup>  |
| (JTB)                                                                      | 9                 | 9                 | 9                 | 9                 | 9                 |                   |                   |                   |
| (JTC)                                                                      | 20                | 20                | 20                | 20                | 20                |                   |                   |                   |
| Typical (JTA)                                                              | 5                 | 5                 | 5                 | 5                 | 5                 | —                 | —                 | —                 |
| (JTB)                                                                      | 12                | 12                | 12                | 12                | 12                |                   |                   |                   |
| (JTC)                                                                      | 24                | 24                | 24                | 24                | 24                |                   |                   |                   |
| Maximum (JTA)                                                              | 8                 | 8                 | 8                 | 8                 | 8                 | 48 <sup>(1)</sup> | 48 <sup>(1)</sup> | 48 <sup>(1)</sup> |
| (JTB)                                                                      | 16                | 16                | 16                | 16                | 16                |                   |                   |                   |
| (JTC)                                                                      | 28                | 28                | 28                | 28                | 28                |                   |                   |                   |
| <b>Max Control Current to Operate (mA)</b>                                 | 15                | 15                | 15                | 15                | 15                | 15                | 15                | 15                |
| <b>Min Dropout Voltage (VDC)</b>                                           | 0.8               | 0.8               | 0.8               | 0.8               | 0.8               | 0.8               | 0.8               | 0.8               |

<sup>1</sup>External limiting resistor required to maintain control current between 15 mA (min) and 50 mA (max).

(\*) "A" designates 4-8VDC Control  
 "B" designates 9-16VDC Control  
 "C" designates 20-26VDC Control

(X) "1" specifies 0.3" pins  
 "2" specifies Quick Connect  
 "3" specifies 0.175" pins

High Voltage Option Available (H Suffix)

### Features:

- Random turn-on
- Ratings to 600V, 10A
- UL recognized
- CSA approved
- DC control, AC output
- Optically isolated
- TTL and CMOS compatible

### Surge and Overload Current Maximum

| Duration        | Load Current               |
|-----------------|----------------------------|
| 1 Second        | 3 Times Continuous Rating  |
| 16 Milliseconds | 10 Times Continuous Rating |
| 1 Millisecond   | 20 Times Continuous Rating |

### Absolute Maximum Ratings

| Parameter                                   | Min  | Max  | Units                |
|---------------------------------------------|------|------|----------------------|
| Isolation Voltage:                          |      |      |                      |
| Input-to-Output                             | 2500 | —    | V <sub>RMS</sub>     |
| Terminals-to-Tab/Case                       | 2500 | —    | V <sub>RMS</sub>     |
| Thermal Resistance:                         |      |      |                      |
| Junction-to-Ambient                         | —    | 41.0 | °C/Watt <sup>1</sup> |
| Junction-to-Tab                             | —    | 5.9  | °C/Watt <sup>2</sup> |
| Input to Output Capacitance                 | —    | 4    | pF                   |
| Continuous Control Current                  | —    | 100  | mA                   |
| Peak Control Current (100 μsec)             | —    | 1    | A                    |
| Reverse Control Voltage                     | —    | 5    | VDC                  |
| Operating Temperature                       | -25  | 75   | °C                   |
| Storage Temperature                         | -25  | 75   | °C                   |
| Soldering Temperature (10 seconds on leads) | —    | 260  | °C                   |

<sup>1</sup>MX Series T<sub>A</sub> = 40°C

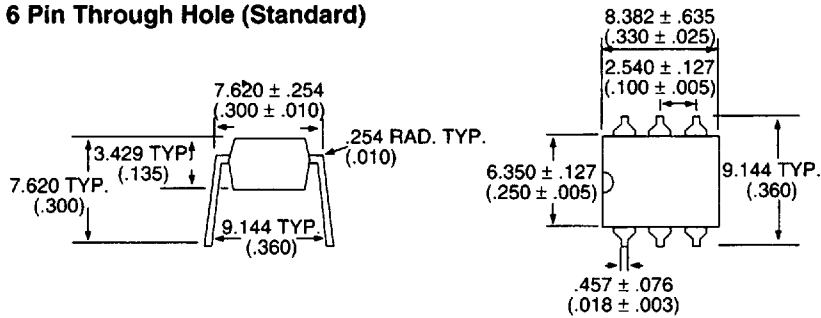
<sup>2</sup>JT Series T<sub>TAB</sub> = 65°C

All characteristics at 25°C

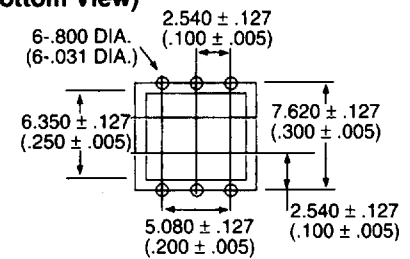
\*For a complete listing of CP Clare Solid State Products ask for our SSP15 catalog.

2144904 0000494 369

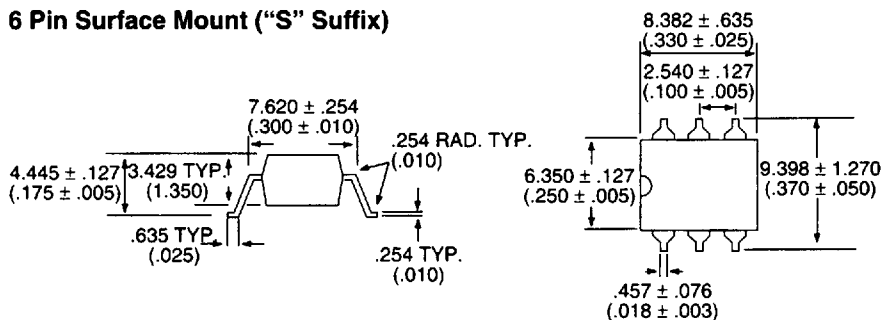
**6 Pin Through Hole (Standard)**



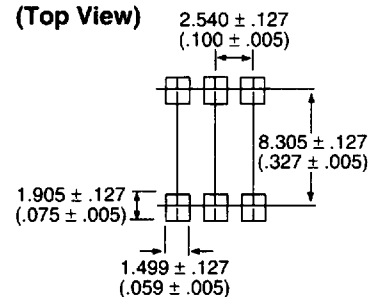
**6 Pin PC Board Pattern (Bottom View)**



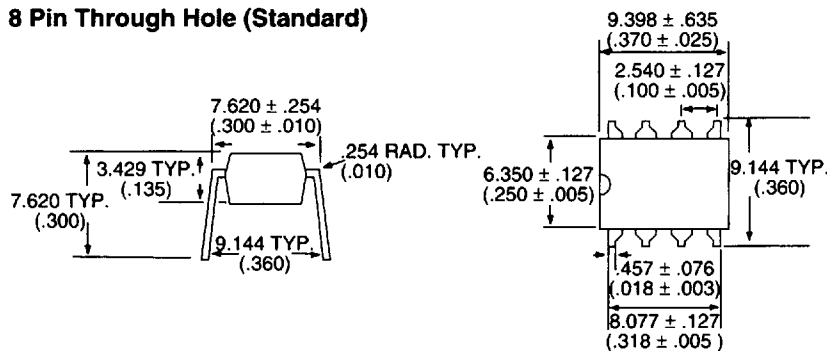
**6 Pin Surface Mount ("S" Suffix)**



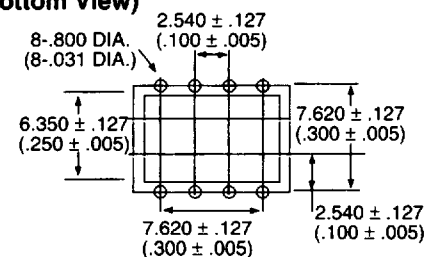
**6 Pin Mounting Pad (Top View)**



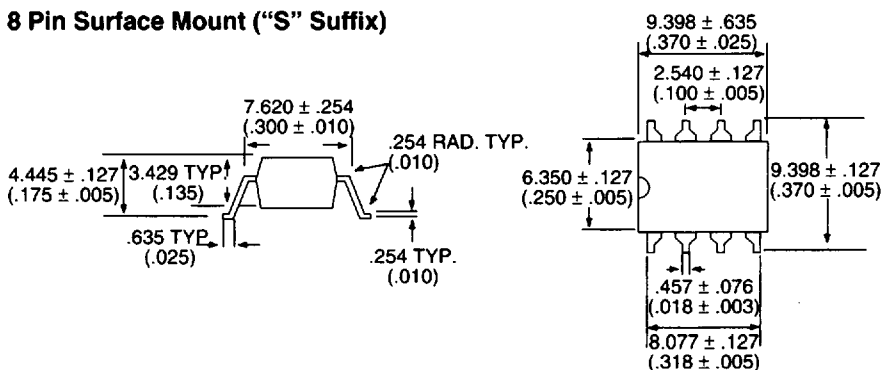
**8 Pin Through Hole (Standard)**



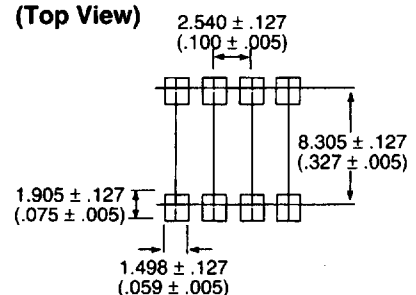
**8 Pin PC Board Pattern (Bottom View)**



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

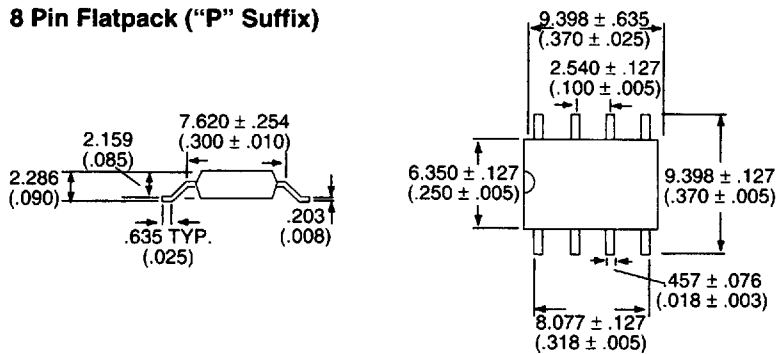


**8 Pin Mounting Pad (Top View)**

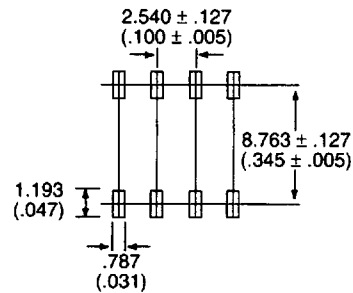


**DIMENSIONS**  
mm  
(Inches)

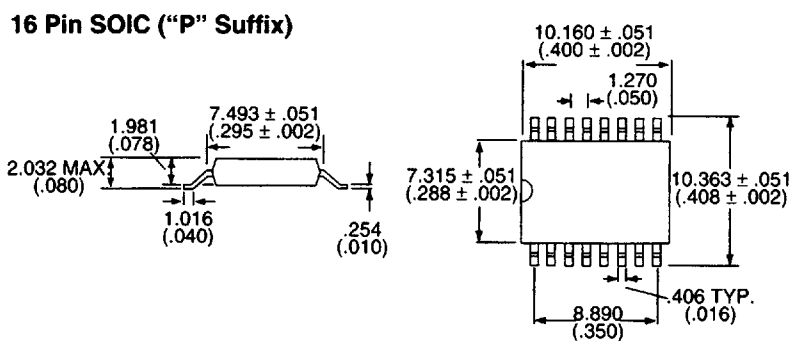
**8 Pin Flatpack ("P" Suffix)**



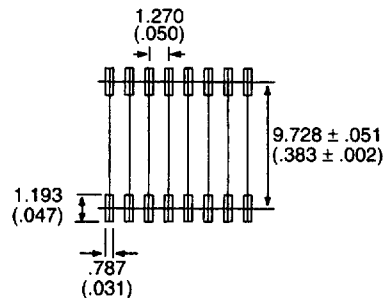
**8 Pin Flatpack Mounting Pad (Top View)**



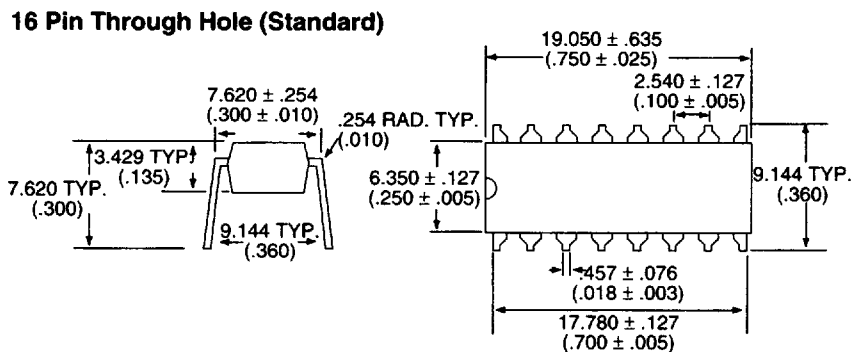
**16 Pin SOIC ("P" Suffix)**



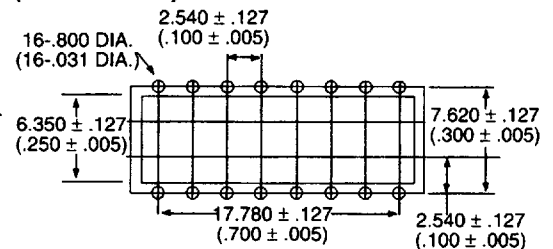
**16 Pin SOIC Mounting Pad (Top View)**



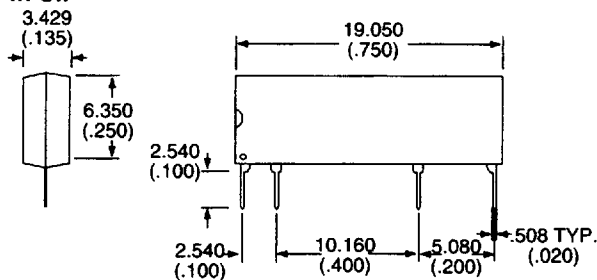
**16 Pin Through Hole (Standard)**



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

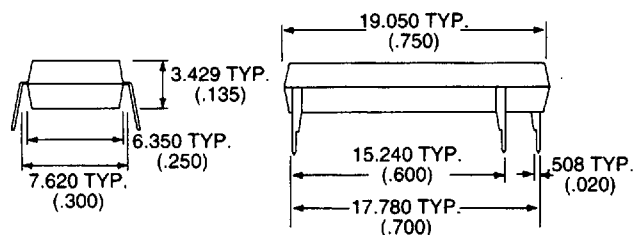


**8 Pin SIP**

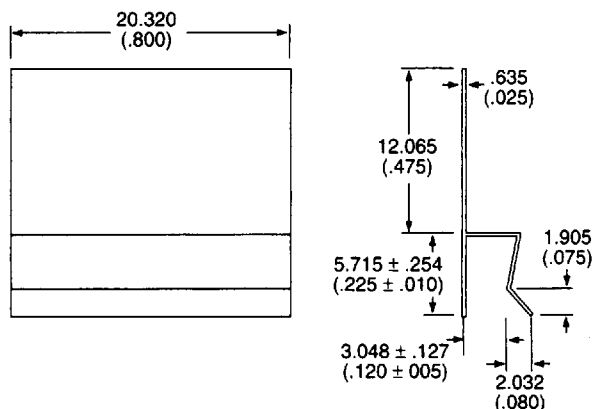


**DIMENSIONS**  
mm  
(Inches)

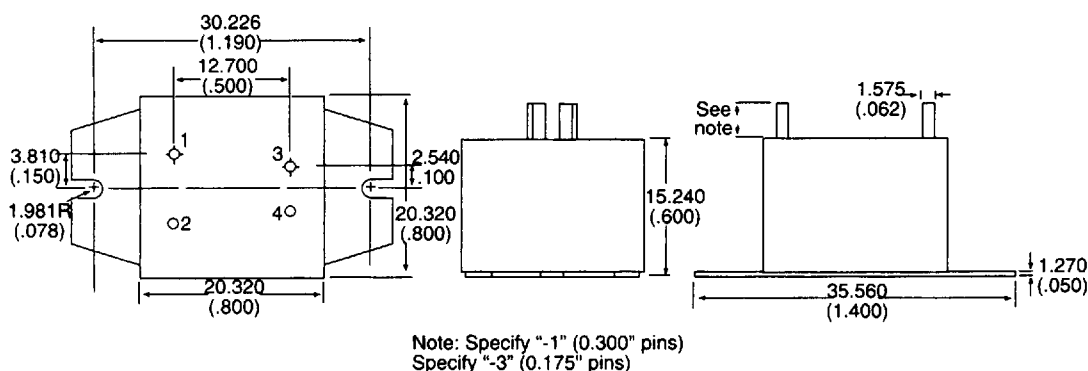
**16 Pin DIP**



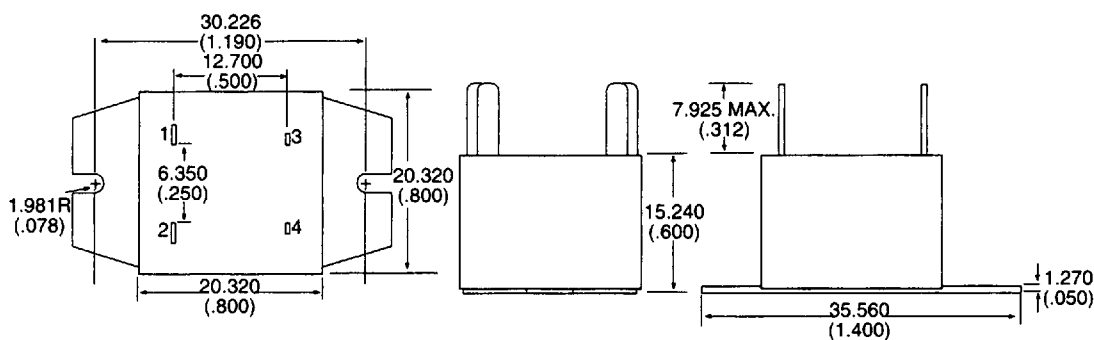
**Thermal Clip**



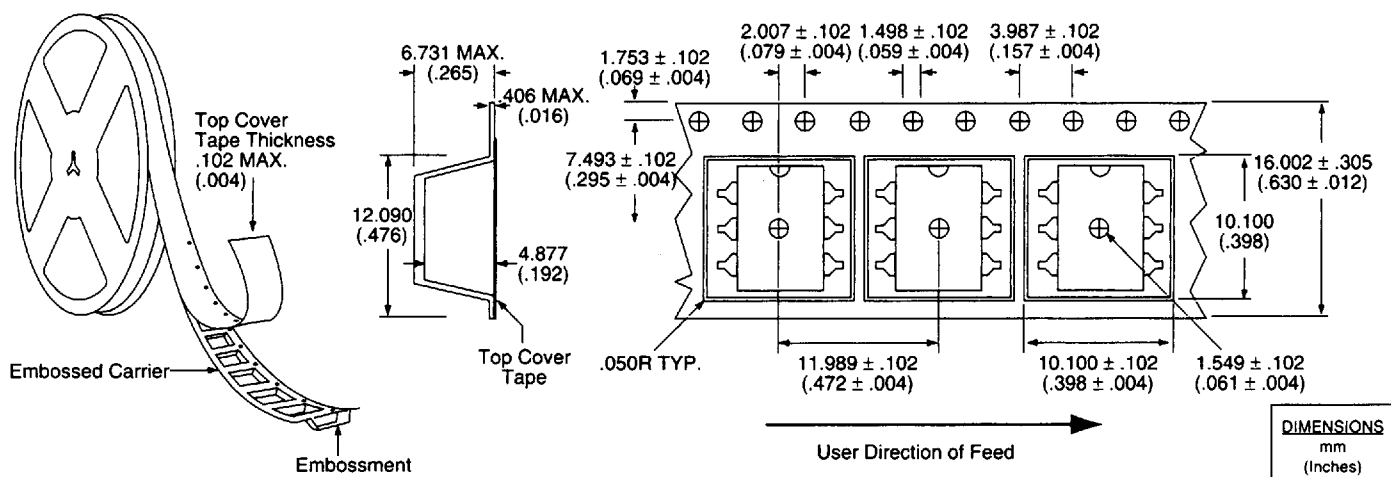
**OptoFILM® 10A Series, Pins**



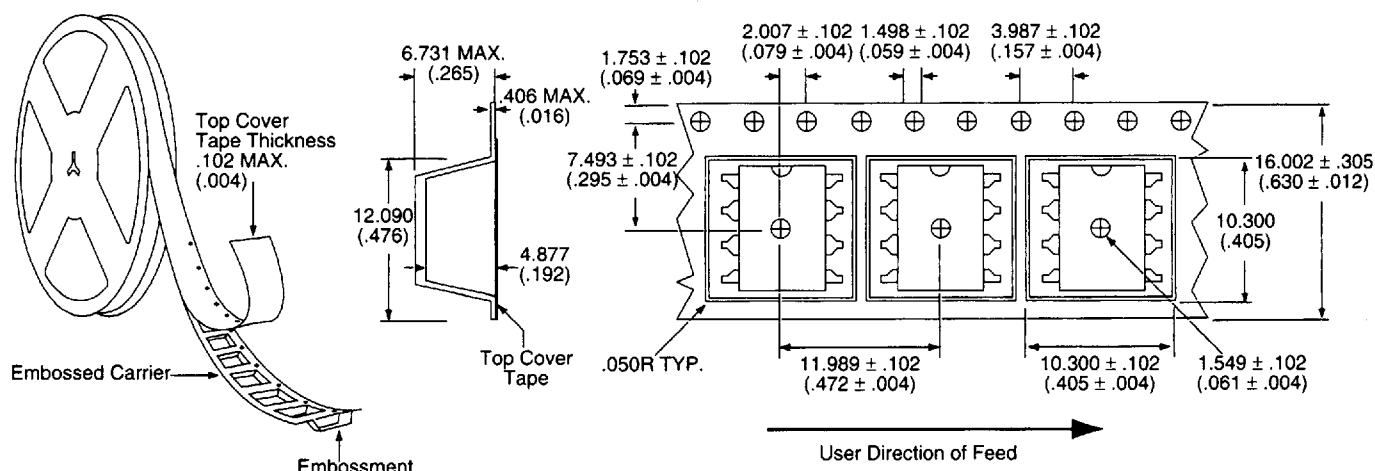
**OptoFILM® 10A Series, Quick Connect**



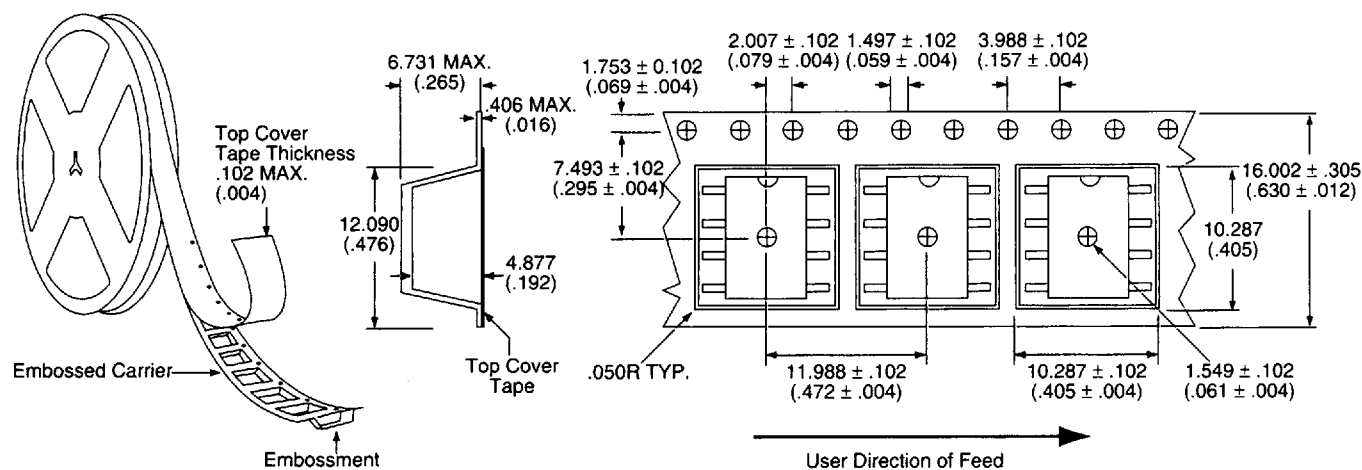
**Tape and Reel Packaging for 6 Pin Surface Mount Package**



**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**

