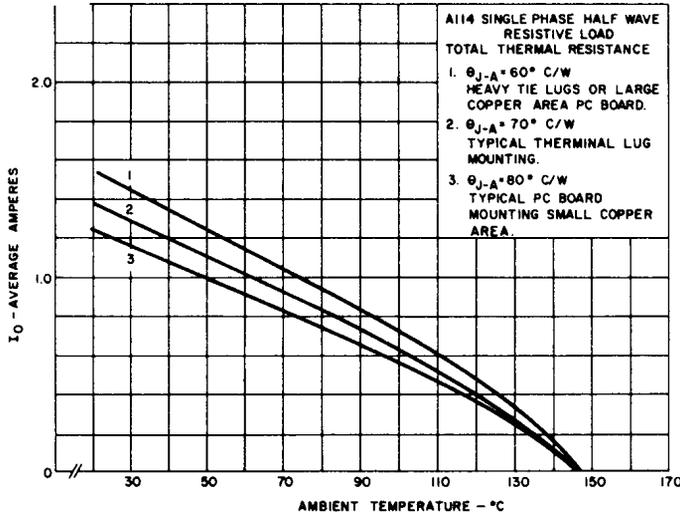
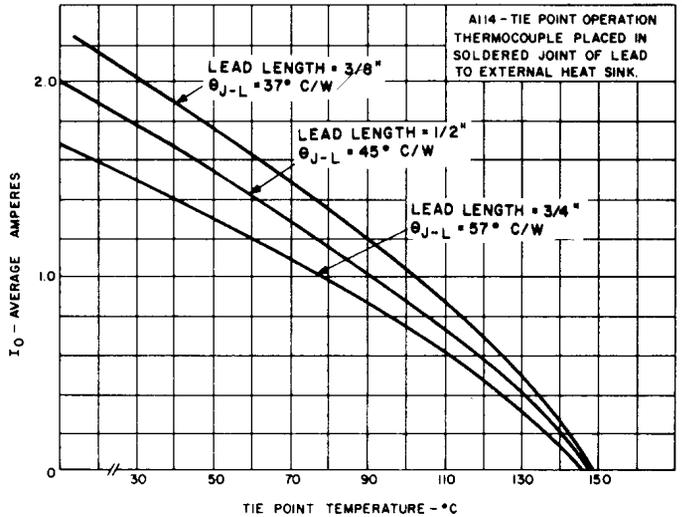


A114F	A114B
A114A	A114C
A114D	
A114E	
A114M	

**CIRCUIT DESIGN INFORMATION**  
**MAXIMUM ALLOWABLE DC OUTPUT CURRENT RATINGS**  
**SINGLE PHASE, RESISTIVE AND INDUCTIVE LOADS**



**AMBIENT OPERATION**



**TIE POINT OPERATION**

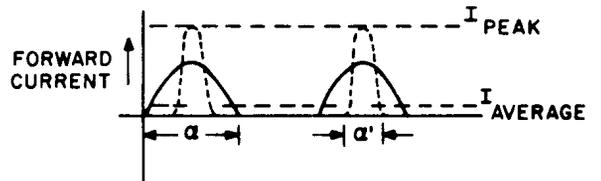
**CAPACITIVE LOADS**

**Current Derating (capacitive load)**

Average forward current as specified under maximum ratings, page 1, and derating curves for high temperature operation, above, must be corrected for applications with capacitive loads. As the current conduction angle,  $\alpha'$ , is decreased, the peak current required to maintain the same average current increases, i.e., the peak-to-average current ratio increases from 3.14. Figure 3 gives the derating required based on this increase in peak to average current ratio for sine wave operation. For more complete information consult Application Note 200.30.

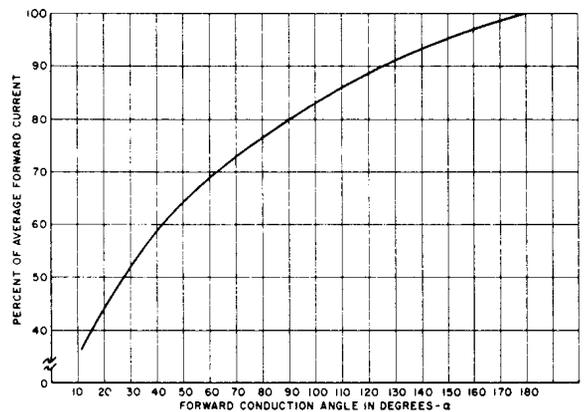
- METHOD:**
- Determine conduction angle  $\alpha'$  in degrees for particular circuit as designed.
  - Enter Figure 3 for the particular conduction angle and read corresponding percent of forward current per cell.
  - Multiply this value times average forward current for resistive load from figures 1 and 2 as given for the actual ambient or tie point temperature required.

*See Typical Examples Below*



$\alpha = \text{CONDUCTION ANGLE (180}^\circ\text{)}$   
 $\alpha' = \text{SHORTENED CONDUCTION ANGLE}$

**OSCILLOSCOPE PRESENTATION**



**DERATING FOR SHORTENED CONDUCTION ANGLE**

**TYPICAL EXAMPLES (25°C Ambient Temperature)**

	Example No. 1	Example No. 2	Example No. 3	Example No. 4	Units
Conduction Angle ( $\alpha$ )	170	110	130	70	Degrees
Rated Average Current (Resistive Load)	1	1	1	1	Amp.
% of Average Current	0.98	0.86	0.92	0.73	%
Rated Average Current (Capacitive Load)	0.98	0.86	0.92	0.73	Amps.