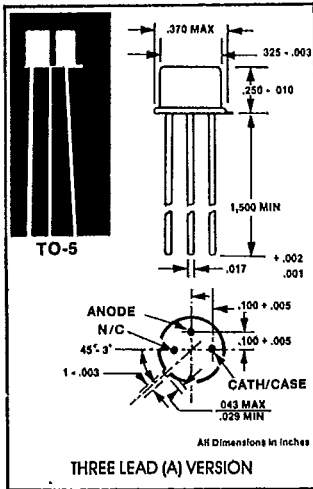




**VERY HIGH VOLTAGE  
CURRENT REGULATOR  
FIELD EFFECT DIODES**

CIL-500/022  
TO  
CIL-500/680



- 300 VOLTS POV
- VERY HIGH DYNAMIC IMPEDANCE
- HERMETICALLY SEALED TO CASE

COND.	SYMBOL	VALUE	UNITS
$T_J - 55^\circ \text{ to } +200^\circ$	POV	300	Volts
25°C (Note 2)	$P_D$	1.5 8.6	W mW/°C
Temp Range	$T_J, \text{ Tstg}$	-55 to +200	°C

**ELECTRICAL SPECIFICATION:  $T_A = 25^\circ\text{C}$  unless otherwise noted**

Type No. CIL-500/	Regulator Current $I_p(\text{mA}) - V_r = 25\text{V}$ (1)			Typical Dynamic Impedance $Z_d(M\Omega) - V_r = 25\text{V}$	Typical Knee Impedance $Z_k(M\Omega) - V_k = 6.0\text{V}$	Maximum Limiting Voltage $V_L - 0.8 I_p(\text{min})$ $V_L(\text{Volts})$
	nom	min	max			
022	0.22	0.198	0.242	10	10	10
024	0.24	0.216	0.264	10	10	11
027	0.27	0.243	0.297	10	10	11
030	0.30	0.270	0.330	10	10	11
033	0.33	0.297	0.363	10	10	11
039	0.39	0.354	0.429	10	10	12
043	0.43	0.387	0.473	10	10	12
047	0.47	0.423	0.517	10	9	12
056	0.56	0.504	0.616	10	7	13
062	0.62	0.558	0.682	10	5	13
068	0.68	0.612	0.748	10	4.4	13
075	0.75	0.675	0.825	10	4.3	15
082	0.82	0.738	0.902	10	4.1	15
091	0.91	0.819	1.001	10	4.0	15
100	1.00	0.900	1.100	8	3.0	17
110	1.10	0.990	1.210	7	1.5	17
120	1.20	1.080	1.320	6	1.0	17
130	1.30	1.170	1.430	5.6	0.6	20
140	1.40	1.260	1.540	5.3	0.5	22
150	1.50	1.350	1.650	5.0	0.5	24
160	1.60	1.440	1.760	5.0	0.4	2.6
180	1.80	1.620	1.980	5.0	0.3	2.8
200	2.00	1.800	2.200	5.0	0.3	2.9
220	2.20	1.980	2.420	5.0	0.2	3.0
240	2.40	2.160	2.640	5.0	0.2	3.1
270	2.70	2.430	2.970	5.0	0.1	3.3
300	3.00	2.700	3.300	5.0	50k $\Omega$	3.4
330	3.30	2.970	3.630	5.0	25k $\Omega$	3.5
360	3.60	3.240	3.960	5.0	14k $\Omega$	3.6
390	3.90	3.510	4.290	5.0	11k $\Omega$	3.7
430	4.30	3.870	4.730	2.5	8k $\Omega$	3.8
470	4.70	4.230	5.170	100k $\Omega$	5k $\Omega$	4.0
510	5.10	4.590	5.610	80k $\Omega$	5k $\Omega$	4.3
560	5.60	5.040	6.160	75k $\Omega$	4k $\Omega$	4.9
620	6.20	5.580	6.820	70k $\Omega$	4k $\Omega$	5.5
680	6.80	6.120	7.480	66k $\Omega$	3k $\Omega$	6.2

**NOTES:**

- (1) Measure with 300 $\mu\text{s}$ , 2% duty cycle pulse.
- (2) POV of CIL-500/510 thru CIL-500/680 is limited by the 1.5 W maximum  $P_D$ . Maximum allowable dissipation can be increased to 2 watts by using a clip-on heat dissipator (Wakefield Engineering 204CB or equivalent). This will allow a higher POV and/or a higher operating ambient temperature.
  - a. Do not exceed 300-Volts POV
  - b. Derate at 11.4 mW/°C at ambients above 25°C.



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