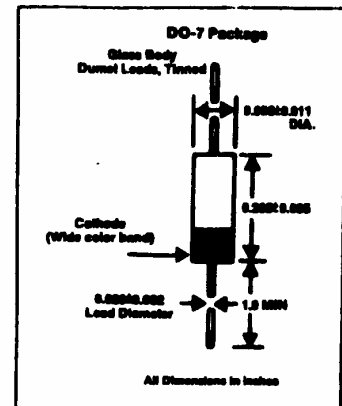


MILITARY APPROVED

Current Regulator Field Effect Diodes

1N5283
thru
1N5314
and
JAN/JTX/JTXV

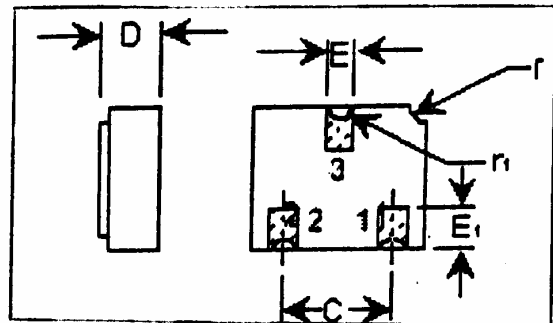
GEOMETRY 507 (1N5283-1N5290) GEOMETRY 465 (1N5291-1N5314)



- Available as JAN, JAN-JX, JAN-JX-v thru Max Components*
- Current Constant Over Wide Voltage Range
- High Source Impedance
- Connect in Parallel for Higher Current

PARAMETER	SYMBOL	MAXIMUM RATINGS VALUE	UNITS
Peak Operating Voltage ($T_J = -55^\circ\text{C}$ to $+200^\circ\text{C}$)	POV	100	Volts
Steady State Power Dissipation @ $T_J = 75^\circ\text{C}$ Derate above $T_J = 75^\circ\text{C}$ Lead Length = 3/8" (Forward or Reverse Bias)	P_D	600 4.8	mW mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +200	°C

(UB Package)

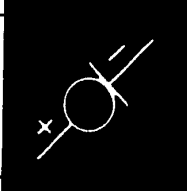


ELECTRICAL SPECIFICATIONS: $T_A = 25^\circ\text{C}$ unless otherwise noted

Type No.	Regulator Current I_p (mA) @ $V_i = 25\text{V}$ (1)			Minimum Dynamic Impedance @ $V_i = 25\text{V}$ Z_T (MΩ)	Minimum Noise Impedance @ $V_i = 0.5\text{V}$ Z_N (MΩ)	Maximum Limiting Voltage @ $I_L = 0.5 I_p$ (min) V_L (Volts)	Temperature Coefficient @ $V_i = 25\text{V}$ -55°C to $+25^\circ\text{C}$ (%/°C)	Temperature Coefficient @ $V_i = 25\text{V}$ 25°C to $+100^\circ\text{C}$ (%/°C)	
	nom.	min.	max.						
1N5283	0.22	0.188	0.242	25.0	2.750	1.00	+1.35	-0.08	+0.70
1N5284	0.34	0.216	0.284	19.0	2.350	1.00	+1.25	-0.10	+0.68
1N5285	0.27	0.243	0.287	14.0	1.950	1.00	+1.15	-0.12	+0.66
1N5286	0.30	0.270	0.330	9.0	1.600	1.00	+1.05	-0.15	+0.62
1N5287	0.33	0.287	0.383	6.6	1.350	1.00	+0.95	-0.16	+0.47
1N5288	0.39	0.361	0.429	4.10	1.000	1.05	+0.82	-0.20	+0.38
1N5289	0.43	0.387	0.473	3.30	0.870	1.05	+0.75	-0.22	+0.33
1N5290	0.47	0.423	0.517	2.70	0.750	1.05	+0.70	-0.23	+0.28
1N5291	0.56	0.504	0.616	1.90	0.580	1.10	+0.55	-0.25	+0.20
1N5292	0.62	0.558	0.682	1.55	0.470	1.13	+0.45	-0.27	+0.15
1N5293	0.68	0.612	0.748	1.35	0.400	1.15	+0.40	-0.28	+0.12
1N5294	0.75	0.675	0.825	1.15	0.335	1.20	+0.35	-0.30	+0.07
1N5295	0.82	0.738	0.902	1.00	0.290	1.25	+0.27	-0.31	+0.03
1N5296	0.91	0.819	1.001	0.880	0.240	1.29	+0.20	-0.32	
1N5297	1.00	0.900	1.100	0.800	0.205	1.35	+0.15	-0.34	
1N5298	1.10	0.980	1.210	0.700	0.180	1.40	+0.10	-0.36	
1N5299	1.20	1.080	1.320	0.640	0.155	1.45	+0.05	-0.37	
1N5300	1.30	1.170	1.430	0.580	0.135	1.50		-0.38	
1N5301	1.40	1.280	1.540	0.540	0.115	1.55		-0.39	
1N5302	1.50	1.350	1.650	0.510	0.105	1.60		-0.40	
1N5303	1.80	1.440	1.780	0.475	0.082	1.65		-0.40	
1N5304	1.80	1.620	1.980	0.420	0.074	1.75		-0.41	
1N5305	2.00	1.800	2.200	0.385	0.061	1.85		-0.42	
1N5306	2.20	1.980	2.480	0.370	0.052	1.95		-0.42	
1N5307	2.40	2.160	2.640	0.345	0.044	2.00		-0.43	
1N5308	2.70	2.430	2.970	0.320	0.035	2.15		-0.43	
1N5309	3.00	2.700	3.300	0.300	0.029	2.25		-0.43	
1N5310	3.30	2.970	3.630	0.280	0.024	2.35		-0.44	
1N5311	3.60	3.240	3.960	0.265	0.020	2.50		-0.44	
1N5312	3.90	3.510	4.290	0.255	0.017	2.60		-0.45	
1N5313	4.30	3.870	4.730	0.245	0.014	2.75		-0.45	
1N5314	4.70	4.230	5.170	0.235	0.012	2.90		-0.45	

(1) Measure with 300μs, 2% duty cycle pulses.

1- Anode
2-
3-Cathode



5 to 10 mA Current Regulator Field Effect Diodes

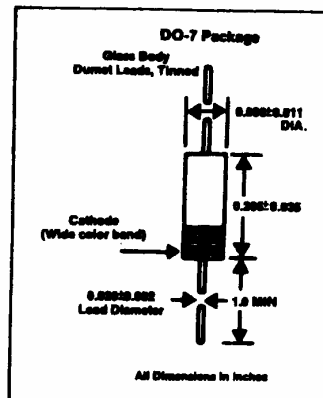
**CIL-250
thru
CIL-257**

GEOMETRY 465

- Current Constant Over Wide Voltage Range
- High Source Impedance
- Connect in Parallel for Higher Current

MAXIMUM RATINGS

Parameter	Symbol	Value	Units
Peak Operating Voltage ($T_J = -55^\circ\text{C}$ to $+200^\circ\text{C}$)	POV	See Table	Volts
Steady State Power Dissipation @ $T_J = 75^\circ\text{C}$ Derate above $T_J = 75^\circ\text{C}$ Lead Length = 3/8" (Forward or Reverse Bias)	P_D	600 4.8	mW mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +200	°C

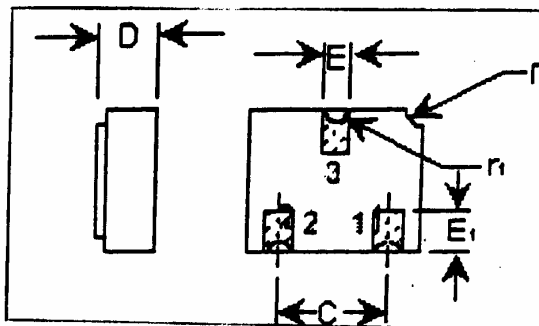


ELECTRICAL SPECIFICATIONS: $T_A = 25^\circ\text{C}$ unless otherwise noted

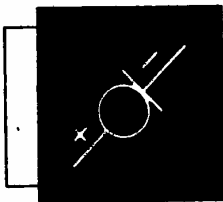
Type No.	Regulator Current I_P (mA) @ $V_T = 25\text{V}$ (1)			Typical Dynamic Impedance @ $V_T = 25\text{V}$ Z_T (K Ω)	Typical Knee Impedance @ $V_T = 6.0\text{V}$ Z_K (K Ω)	Maximum Limiting Voltage @ $I_L = 0.8 I_P$ (min) V_L (Volts)	POV Peak OP. Volt
	nom	min	max				
250	5.10	4.58	5.61	230	12	3.67	80
251	5.60	5.04	6.16	230	12	4.03	80
252	6.20	5.58	6.82	230	12	4.46	70
253	6.80	6.12	7.48	225	10	4.90	70
254	7.50	6.75	8.25	225	10	5.40	60
255	8.20	7.38	9.02	225	10	5.90	60
256	9.10	8.19	10.01	220	9	6.55	50
257	10.00	9.00	11.10	220	9	7.20	50

(1) Measure with 300 μs , 2% duty cycle pulse.

(UB Package)

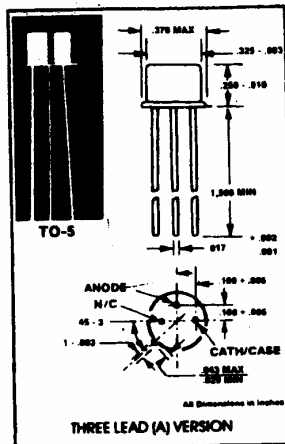


- 1- Anode
- 2- Cathode
- 3- Cathode



VERY HIGH CURRENT Current Regulator Field Effect Diodes

CIL-350/A
thru
CIL-366/A



- High Current—to 50 mA
- Hermetically Sealed TO Case
- Ultra Low TC—<1000 ppm/°C
- Dynamic Impedance—>100 KΩ

Cond.	Symbol	Value	Units
$T_J - 55^\circ - +200^\circ$	POV	See Table	Volts
25°C (Note 2)	P_D	1.5 6.6	W mW/°C
Temp Range	T_J, T_{stg}	-55 to +200	°C

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

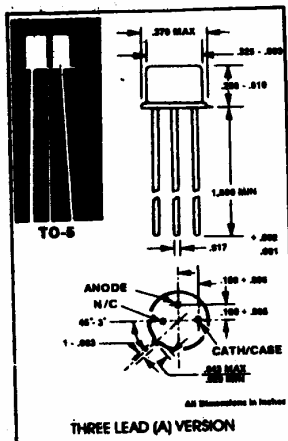
Type No. CIL	Regulator Current I_p (mA) @ $V_T = 25\text{V}$ (1)			Typical Dynamic Impedance @ $V_T = 25\text{V}$ $Z_T (\Omega)$	Typical Knee Impedance @ $V_T = 8.0\text{V}$ $Z_K (\Omega)$	Maximum Limiting Voltage @ $I_L = 0.8 I_p$ (min) V_L (Volts)	POV Peak OP. Volt
	nom	min	max				
350	11	9.9	12.1	100K	8K	6.0	45
351	12	10.8	13.2	100K	5K	6.0	45
352	13	11.7	14.3	100K	4K	6.0	45
353	15	13.5	16.5	90K	3K	6.0	45
354	16	14.4	17.6	90K	2.5K	6.0	45
355	18	16.2	19.8	80K	2K	6.0	45
356	20	18.0	22.0	70K	1K	6.0	45
357	22	19.8	24.2	60K	800	6.0	45
358	24	21.6	26.4	60K	600	6.0	45
359	27	24.3	29.7	60K	600	6.0	45
360	30	27.0	33.0	50K	600	6.0	45
361	33	29.7	36.3	40K	600	6.0	41
362	36	32.4	39.6	30K	600	6.0	38
363	39	35.1	42.9	20K	600	6.0	35
364	43	38.7	47.3	20K	600	6.0	32
365	47	42.3	51.7	15K	600	6.0	29
366	51	45.9	56.1	15K	600	6.0	27

1. Pulse measurement 1% Duty Cycle, 10 mS max
2. 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. Observe following precautions:
 - a. Do not exceed 45 Volts POV.
 - b. Derate at 11.4 mW/°C at ambients above 25°C.



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, T_{stg}	-55 to +200	°C

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

Type No. CIL-500/	Regulator Current $I_R(\text{mA}) = V_R = 25\text{V}$ (1)			Typical Dynamic Impedance $\sim V_R = 25\text{V}$ $Z_d(\text{M}\Omega)$	Typical Knee Impedance $\sim V_R = 8.0\text{V}$ $Z_k(\text{M}\Omega)$	Maximum Limiting Voltage $\sim I_R = 0.8 I_R(\text{min})$ $V_L(\text{Volts})$
	nom	min	max			
022	0.22	0.198	0.242	-10	-10	1.0
024	0.24	0.214	0.264	-10	-10	1.1
027	0.27	0.243	0.297	-10	-10	1.1
030	0.30	0.270	0.330	-10	-10	1.1
033	0.33	0.297	0.363	-10	-10	1.1
039	0.39	0.361	0.429	-10	-10	1.2
043	0.43	0.387	0.473	-10	-10	1.2
047	0.47	0.423	0.517	-10	9	1.2
056	0.56	0.504	0.616	-10	7	1.3
062	0.62	0.566	0.682	-10	5	1.3
066	0.66	0.612	0.748	-10	4.4	1.3
075	0.75	0.675	0.825	-10	4.3	1.6
082	0.82	0.736	0.902	10	4.1	1.5
091	0.91	0.819	1.001	10	4.0	1.6
100	1.00	0.900	1.100	8	3.0	1.7
110	1.10	0.990	1.210	7	1.6	1.7
120	1.20	1.080	1.320	6	1.0	1.7
130	1.30	1.170	1.430	5.6	0.6	2.0
140	1.40	1.260	1.540	5.3	0.5	2.2
150	1.50	1.350	1.650	5.0	0.5	2.4
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 Ω	3.4
330	3.30	2.970	3.630	5.0	25k Ω	3.6
360	3.60	3.240	3.960	5.0	10k Ω	3.6
390	3.90	3.610	4.290	5.0	11k Ω	3.7
430	4.30	3.870	4.730	2.5	8k Ω	3.8
470	4.70	4.230	5.170	100k Ω	5k Ω	4.0
510	5.10	4.590	5.610	80k Ω	5k Ω	4.3
560	5.60	5.040	6.160	75k Ω	4k Ω	4.9
620	6.20	5.580	6.820	70k Ω	4k Ω	5.5
680	6.80	6.120	7.480	64k Ω	3k Ω	6.2

NOTES:

- (1) Measure with 300 μs , 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 204C8 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.