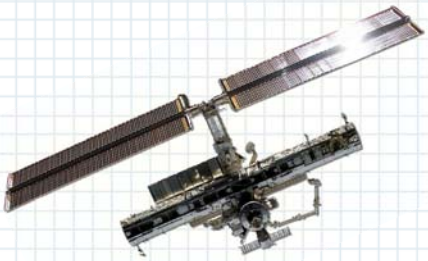
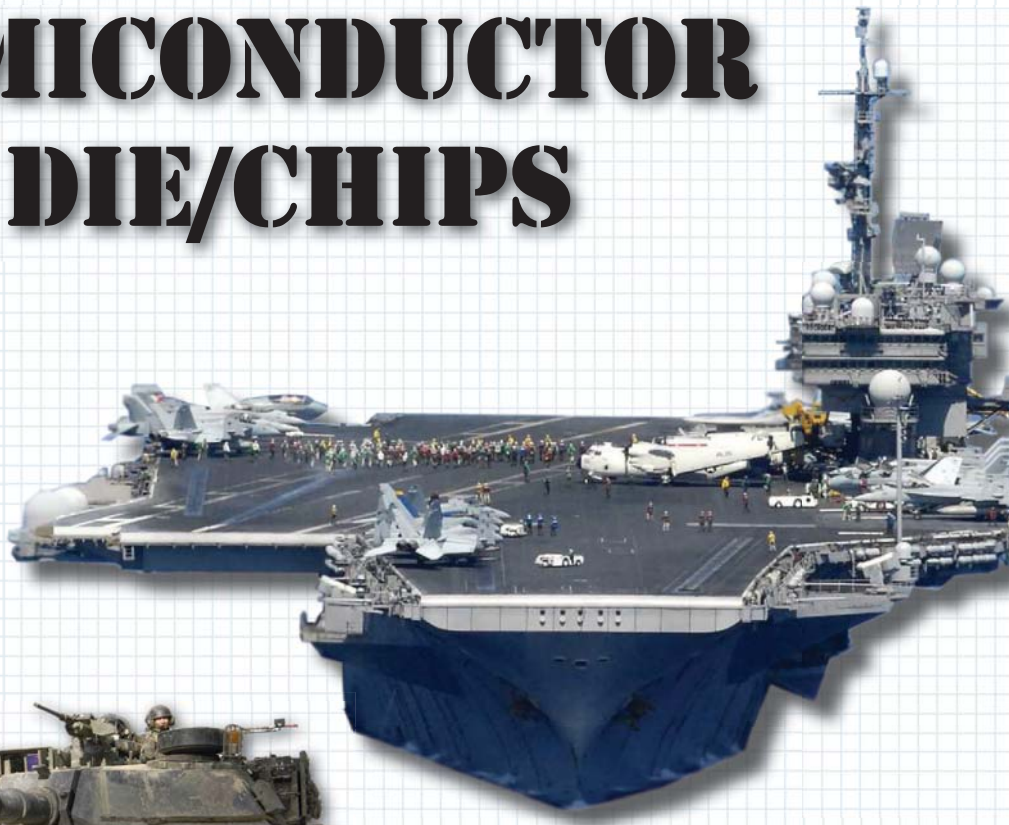


MILITARY QUALIFIED SEMICONDUCTOR DIE/CHIPS



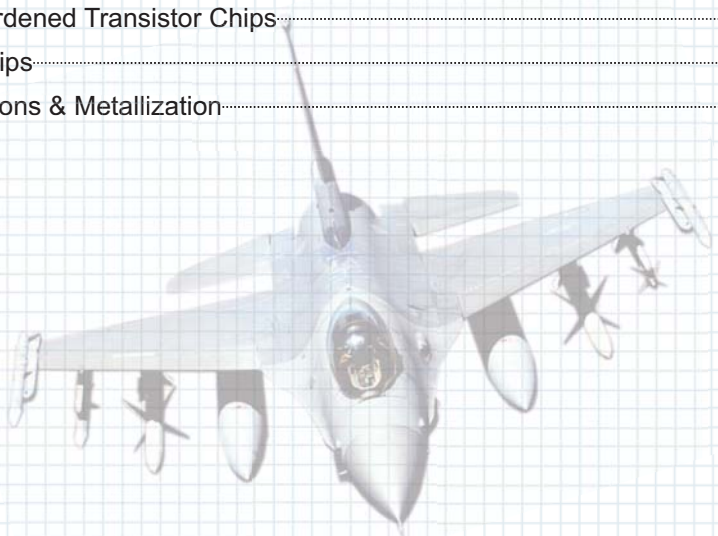
Microsemi

WORLD LEADER FOR SEMICONDUCTOR DIE/CHIPS

Microsemi Corporation is a world leader in the sale of semiconductor die to the high reliability military and space community for hybrid circuit applications. This catalog is a summary of our MIL-PRF-19500 certified JANHC and JANKC semiconductor die products. We are continuously adding to our qualified product listings.

If you are unable to find the device that you are looking for, please contact our Sales Department for the latest updates.

We also regularly sell commercial die and JANHC/JANKC equivalents to meet customer specific needs.



Guide to Part Numbers for Military Qualified Die/Chips

Military part numbers follow a consistent format and code. Below is an example.

To see military detail specifications, go to:
http://www.dscc.dla.mil/Programs/MilSpec/ListDocs.asp?BasicDoc=MIL-PRF-19500

*The **6th letter** allows the user to go to the specified 19500 performance specification sheet and identify the chip size, bond pads and metallization types and thickness used on both sides of the chip. In the example part number used here, refer to the "B" version of the chip layout on the MIL-PRF-19500/255 specification*

*The **7th letter** is only used for qualified radiation hard chips and is the same designator and TID level that the assembled part uses as defined in MIL-PRF-19500*

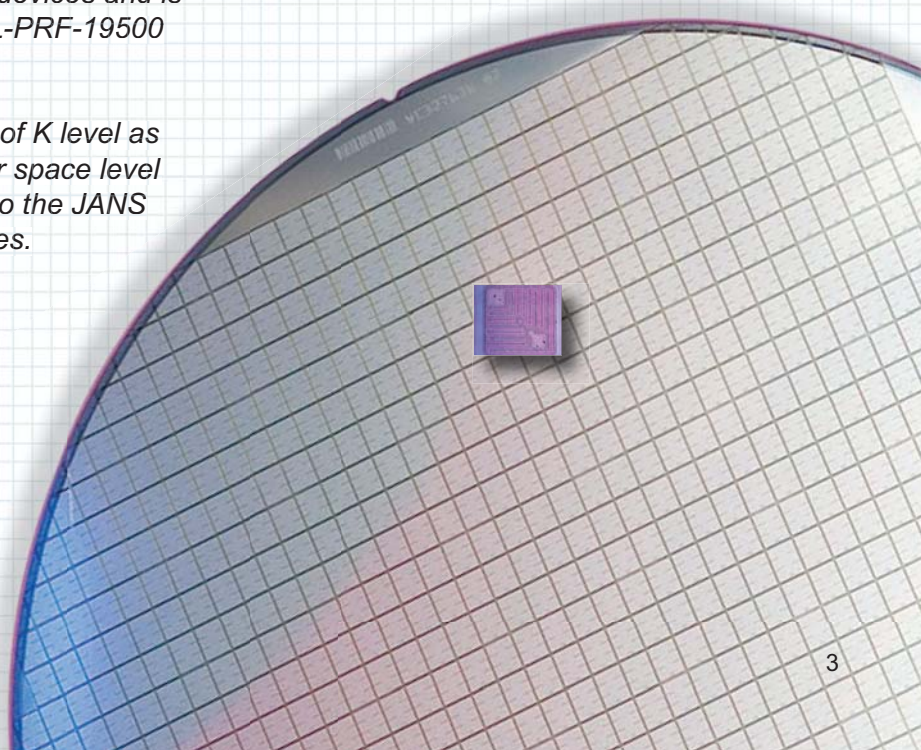
*The **first 3** letter are for Joint Army Navy.*

J A N H C B R 2 N 2 2 2 2 A

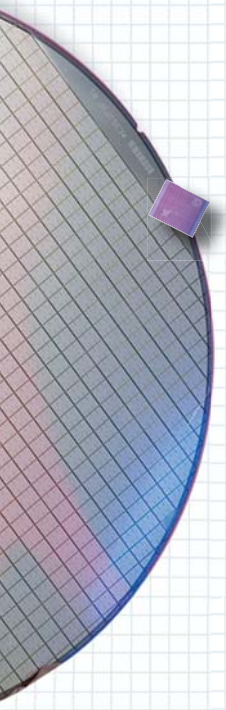
*The **4th and 5th letter** designate HC or KC. HC means the lot acceptance testing and requirements are to a quality level that is similar to TXV on finished devices and is defined in Appendix G of MIL-PRF-19500 as "H" level testing.*

KC means the requirements of K level as defines in Appendix G are for space level applications and are similar to the JANS designator for discrete devices.

The remaining letters and numbers are the same as the discrete device.



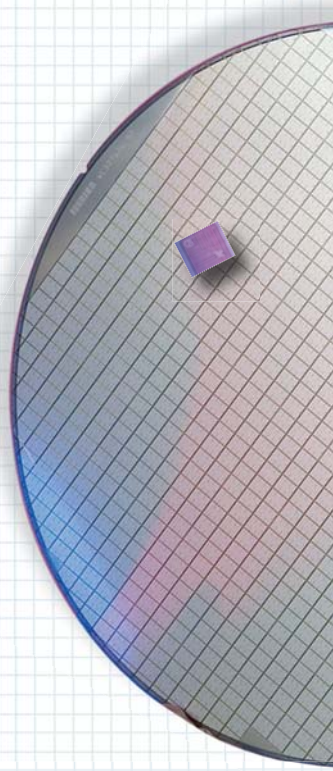
CURRENT REGULATOR CHIPS TO MIL-PRF-19500/463



Part Number	I_{P1} in mA with Vs= 25V			Zs	Z_K	V_L at 0.8 I_P	$I_{P2\ at}$ 100V	α I_S		α I_S		
	NOM	MIN	MAX	MΩ	MΩ	Volts	mA	T_C at V_S= 25V		T_C at V_S= 25V		
								-55ºC	+25ºC	+25ºC	+150ºC	Geometry
								(%/ºC)		(%/ºC)		
								Min	MAX	Min	MAX	
JANHCA1N5283	0.22	0.198	0.242	25.00	2.75	1.00	0.27	-.20	1.15	-.16	0.60	
JANKCA1N5283	0.22	0.198	0.242	25.00	2.75	1.00	0.27	-.20	1.15	-.16	0.60	
JANHCA1N5284	0.24	0.216	0.264	19.00	2.35	1.00	0.30	-.20	1.05	-.20	0.56	
JANKCA1N5284	0.24	0.216	0.264	19.00	2.35	1.00	0.30	-.20	1.05	-.20	0.56	
JANHCA1N5285	0.27	0.243	0.297	14.00	1.95	1.00	0.33	-.30	0.95	-.22	0.48	
JANKCA1N5285	0.27	0.243	0.297	14.00	1.95	1.00	0.33	-.30	0.95	-.22	0.48	
JANHCA1N5286	0.30	0.270	0.330	9.00	1.60	1.00	0.36	-.35	0.85	-.25	0.42	
JANKCA1N5286	0.30	0.270	0.330	9.00	1.60	1.00	0.36	-.35	0.85	-.25	0.42	
JANHCA1N5287	0.33	0.297	0.363	6.60	1.35	1.00	0.40	-.40	0.75	-.26	0.37	
JANKCA1N5287	0.33	0.297	0.363	6.60	1.35	1.00	0.40	-.40	0.75	-.26	0.37	
JANHCA1N5288	0.39	0.351	0.429	4.10	1.00	1.05	0.47	-.50	0.62	-.30	0.28	
JANKCA1N5288	0.39	0.351	0.429	4.10	1.00	1.05	0.47	-.50	0.62	-.30	0.28	
JANHCA1N5289	0.43	0.387	0.473	3.30	0.87	1.05	0.52	-.52	0.55	-.32	0.23	
JANKCA1N5289	0.43	0.387	0.473	3.30	0.87	1.05	0.52	-.52	0.55	-.32	0.23	
JANHCA1N5290	0.47	0.423	0.517	2.70	0.75	1.05	0.57	-.55	0.50	-.33	0.18	
JANKCA1N5290	0.47	0.423	0.517	2.70	0.75	1.05	0.57	-.55	0.50	-.33	0.18	
JANHCA1N5291	0.56	0.504	0.616	1.90	0.56	1.10	0.68	-.60	0.35	-.36	0.10	
JANKCA1N5291	0.56	0.504	0.616	1.90	0.56	1.10	0.68	-.60	0.35	-.36	0.10	
JANHCA1N5292	0.62	0.558	0.682	1.55	0.47	1.13	0.75	-.62	0.25	-.37	0.05	
JANKCA1N5292	0.62	0.558	0.682	1.55	0.47	1.13	0.75	-.62	0.25	-.37	0.05	
JANHCA1N5293	0.68	0.612	0.748	1.35	0.40	1.15	0.82	-.65	0.20	-.38	0.02	
JANKCA1N5293	0.68	0.612	0.748	1.35	0.40	1.15	0.82	-.65	0.20	-.38	0.02	
JANHCA1N5294	0.75	0.675	0.825	1.15	0.335	1.20	0.91	-.70	0.15	-.40	-.03	D-7
JANKCA1N5294	0.75	0.675	0.825	1.15	0.335	1.20	0.91	-.70	0.15	-.40	-.03	
JANHCA1N5295	0.82	0.738	0.902	1.00	0.290	1.25	0.99	-.72	0.07	-.41	-.07	
JANKCA1N5295	0.82	0.738	0.902	1.00	0.290	1.25	0.99	-.72	0.07	-.41	-.07	
JANHCA1N5296	0.91	0.819	1.001	0.880	0.240	1.29	1.10	-.76	0.0	-.42	-.10	
JANKCA1N5296	0.91	0.819	1.001	0.880	0.240	1.29	1.10	-.76	0.0	-.42	-.10	
JANHCA1N5297	1.00	0.900	1.100	0.800	0.205	1.35	1.21	-.78	- 0.05	-.44	-.10	
JANKCA1N5297	1.00	0.900	1.100	0.800	0.205	1.35	1.21	-.78	- 0.05	-.44	-.10	
JANHCA1N5298	1.10	0.990	1.210	0.700	0.180	1.40	1.33	-.80	- .10	-.46	-.10	
JANKCA1N5298	1.10	0.990	1.210	0.700	0.180	1.40	1.33	-.80	- .10	-.46	-.10	
JANHCA1N5299	1.20	1.080	1.320	0.640	0.155	1.45	1.45	-.83	- .15	-.47	-.10	
JANKCA1N5299	1.20	1.080	1.320	0.640	0.155	1.45	1.45	-.83	- .15	-.47	-.10	
JANHCA1N5300	1.30	1.170	1.430	0.580	0.135	1.50	1.57	-.85	- .20	-.48	-.10	
JANKCA1N5300	1.30	1.170	1.430	0.580	0.135	1.50	1.57	-.85	- .20	-.48	-.10	
JANHCA1N5301	1.40	1.260	1.540	0.540	0.115	1.55	1.69	-.88	- .20	-.49	-.10	
JANKCA1N5301	1.40	1.260	1.540	0.540	0.115	1.55	1.69	-.88	- .20	-.49	-.10	
JANHCA1N5302	1.50	1.350	1.650	0.510	0.105	1.60	1.81	-.90	-.20	-.50	-.10	
JANKCA1N5302	1.50	1.350	1.650	0.510	0.105	1.60	1.81	-.90	-.20	-.50	-.10	
JANHCA1N5303	1.60	1.440	1.760	0.475	0.092	1.65	1.92	-.90	-.20	-.50	-.10	
JANKCA1N5303	1.60	1.440	1.760	0.475	0.092	1.65	1.92	-.90	-.20	-.50	-.10	
JANHCA1N5304	1.80	1.620	1.980	0.420	0.074	1.75	2.18	-.92	-.20	-.51	-.10	
JANKCA1N5304	1.80	1.620	1.980	0.420	0.074	1.75	2.18	-.92	-.20	-.51	-.10	
JANHCA1N5305	2.00	1.800	2.200	0.395	0.061	1.85	2.42	-.95	-.20	-.52	-.10	
JANKCA1N5305	2.00	1.800	2.200	0.395	0.061	1.85	2.42	-.95	-.20	-.52	-.10	
JANHCA1N5306	2.20	1.980	2.420	0.370	0.052	1.95	2.66	-.96	-.20	-.52	-.10	
JANKCA1N5306	2.20	1.980	2.420	0.370	0.052	1.95	2.66	-.96	-.20	-.52	-.10	
JANHCA1N5307	2.40	2.160	2.640	0.345	0.044	2.00	2.90	-.98	-.20	-.53	-.10	
JANKCA1N5307	2.40	2.160	2.640	0.345	0.044	2.00	2.90	-.98	-.20	-.53	-.10	
JANHCA1N5308	2.70	2.430	2.970	0.320	0.035	2.15	3.27	-1.0	-.20	-.53	-.10	
JANKCA1N5308	2.70	2.430	2.970	0.320	0.035	2.15	3.27	-1.0	-.20	-.53	-.10	
JANHCA1N5309	3.00	2.700	3.300	0.300	0.029	2.25	3.63	-1.01	-.20	-.53	-.10	
JANKCA1N5309	3.00	2.700	3.300	0.300	0.029	2.25	3.63	-1.01	-.20	-.53	-.10	
JANHCA1N5310	3.30	2.970	3.630	0.280	0.024	2.35	3.99	-1.02	-.20	-.54	-.10	
JANKCA1N5310	3.30	2.970	3.630	0.280	0.024	2.35	3.99	-1.02	-.20	-.54	-.10	
JANHCA1N5311	3.60	3.240	3.960	0.265	0.020	2.50	4.36	-1.03	-.20	-.54	-.10	
JANKCA1N5311	3.60	3.240	3.960	0.265	0.020	2.50	4.36	-1.03	-.20	-.54	-.10	
JANHCA1N5312	3.90	3.510	4.290	0.255	0.017	2.60	4.72	-1.04	-.20	-.55	-.10	
JANKCA1N5312	3.90	3.510	4.290	0.255	0.017	2.60	4.72	-1.04	-.20	-.55	-.10	
JANHCA1N5313	4.30	3.870	4.730	0.245	0.014	2.75	5.20	-1.05	-.20	-.55	-.10	
JANKCA1N5313	4.30	3.870	4.730	0.245	0.014	2.75	5.20	-1.05	-.20	-.55	-.10	
JANHCA1N5314	4.70	4.230	5.170	0.235	0.012	2.90	5.69	-1.06	-.20	-.55	-.10	
JANKCA1N5314	4.70	4.230	5.170	0.235	0.012	2.90	5.69	-1.06	-.20	-.55	-.10	

LOW-NOISE VOLTAGE REGULATOR CHIPS

Part Number	Vz Nom	I_R at 150ºC	Z_{ZT}	αV_Z	N_D	I_{ZM}	IZ (test I)	Military	Geometry
See Notes 1and 2	Volts	uA	Ohms	%/ºC	µV/√ Hz	mA	mA	Slash sheet	
JANHCA1N4614	1.8	10.0	1200	-0.075	1	120	0.25	19500/435	
JANHCA1N4615	2.0	8.0	1250	-0.075	1	110	0.25	19500/435	
JANHCA1N4616	2.2	6.0	1300	-0.075	1	100	0.25	19500/435	
JANHCA1N4617	2.4	4.0	1400	-0.075	1	95	0.25	19500/435	
JANHCA1N4618	2.7	2.0	1500	-0.075	1	90	0.25	19500/435	
JANHCA1N4619	3.0	1.0	1600	-0.075	1	87	0.25	19500/435	
JANHCA1N4620	3.3	7.0	1650	-0.075	1	85	0.25	19500/435	
JANHCA1N4621	3.6	10.0	1700	-0.065	1	83	0.25	19500/435	
JANHCA1N4622	3.9	5.0	1650	-0.060	1	80	0.25	19500/435	
JANHCA1N4623	4.3	4.0	1600	-0.050	1	77	0.25	19500/435	
JANHCA1N4624	4.7	10.0	1550	+.020,-.050	1	75	0.25	19500/435	
JANHCA1N4625	5.1	10.0	1500	+.030, -.045	2	70	0.25	19500/435	
JANHCA1N4626	5.6	10.0	1400	+.040, -.020	4	65	0.25	19500/435	
JANHCA1N4627	6.2	10.0	1200	+.050, -.010	5	61	0.25	19500/435	
JANHCA1N4099	6.8	5.0	200	0.060	40	56	0.25	19500/435	
JANHCA1N4100	7.5	5.0	200	0.065	40	51	0.25	19500/435	
JANHCA1N4101	8.2	5.0	200	0.070	40	46	0.25	19500/435	
JANHCA1N4102	8.7	5.0	200	0.075	40	44	0.25	19500/435	
JANHCA1N4103	9.1	5.0	200	0.080	40	42	0.25	19500/435	
JANHCA1N4104	10.0	5.0	200	0.080	40	38	0.25	19500/435	
JANHCA1N4105	11.0	5.0	200	0.080	40	35	0.25	19500/435	
JANHCA1N4106	12.0	5.0	200	0.080	40	32	0.25	19500/435	
JANHCA1N4107	13.0	5.0	200	0.080	40	29	0.25	19500/435	
JANHCA1N4108	14.0	5.0	200	0.085	40	27	0.25	19500/435	
JANHCA1N4109	15.0	5.0	100	0.085	40	25	0.25	19500/435	
JANHCA1N4110	16.0	5.0	100	0.085	40	24	0.25	19500/435	
JANHCA1N4111	17.0	5.0	100	0.090	40	22	0.25	19500/435	
JANHCA1N4112	18.0	5.0	100	0.090	40	21	0.25	19500/435	
JANHCA1N4113	19.0	2.5	150	0.090	40	20	0.25	19500/435	
JANHCA1N4114	20.0	2.5	150	0.090	40	19	0.25	19500/435	
JANHCA1N4115	22.0	2.5	150	0.090	40	17	0.25	19500/435	
JANHCA1N4116	24.0	2.5	150	0.090	40	16	0.25	19500/435	
JANHCA1N4117	25.0	2.5	150	0.090	40	15	0.25	19500/435	
JANHCA1N4118	27.0	2.5	150	0.090	40	14	0.25	19500/435	D-6
JANHCA1N4119	28.0	2.5	200	0.095	40	14	0.25	19500/435	
JANHCA1N4120	30.0	2.5	200	0.095	40	13	0.25	19500/435	
JANHCA1N4121	33.0	2.5	200	0.095	40	12	0.25	19500/435	
JANHCA1N4122	36.0	2.5	200	0.095	40	11	0.25	19500/435	
JANHCA1N4123	39.0	2.5	200	0.095	40	9.8	0.25	19500/435	
JANHCA1N4124	43.0	2.5	250	0.095	40	8.9	0.25	19500/435	
JANHCA1N4125	47.0	4.0	250	0.095	40	8.1	0.25	19500/435	
JANHCA1N4126	51.0	5.0	300	0.100	40	7.5	0.25	19500/435	
JANHCA1N4127	56.0	5.0	300	0.100	40	6.7	0.25	19500/435	
JANHCA1N4128	60.0	5.0	400	0.100	40	6.4	0.25	19500/435	
JANHCA1N4129	62.0	5.0	500	0.100	40	6.1	0.25	19500/435	
JANHCA1N4130	68.0	7.0	700	0.100	40	5.6	0.25	19500/435	
JANHCA1N4131	75.0	7.0	700	0.100	40	5.1	0.25	19500/435	
JANHCA1N4132	82.0	8.0	800	0.100	40	4.6	0.25	19500/435	
JANHCA1N4133	87.0	8.0	1000	0.100	40	4.4	0.25	19500/435	
JANHCA1N4134	91.0	10.0	1200	0.100	40	4.2	0.25	19500/435	
JANHCA1N4135	100.0	10.0	1600	0.100	40	3.8	0.25	19500/435	
JANHCA1N5518B	3.3	10.0	26	-0.070	0.5	115	20.0	19500/437	
JANHCA1N5519B	3.6	6.0	24	-0.065	0.5	105	20.0	19500/437	
JANHCA1N5520B	3.9	4.0	22	-0.060	0.5	98	20.0	19500/437	
JANHCA1N5521B	4.3	6.0	18	-.055,+.02	0.5	88	20.0	19500/437	
JANHCA1N5522B	4.7	6.0	22	-.043,+.025	0.5	81	10.0	19500/437	
JANHCA1N5523B	5.1	6.0	26	-.03,+.03	0.5	75	5.0	19500/437	
JANHCA1N5524B	5.6	4.0	30	-.03,+.045	1	68	3.0	19500/437	
JANHCA1N5525B	6.2	4.0	30	0.050	1	61	1.0	19500/437	
JANHCA1N5526B	6.8	5.0	30	0.052	1	56	1.0	19500/437	
JANHCA1N5527B	7.5	5.0	35	0.058	2	51	1.0	19500/437	
JANHCA1N5528B	8.2	5.0	40	0.062	4	46	1.0	19500/437	
JANHCA1N5529B	9.1	5.0	45	0.068	4	42	1.0	19500/437	
JANHCA1N5530B	10.0	5.0	60	0.075	4	38	1.0	19500/437	
JANHCA1N5531B	11.0	5.0	80	0.075	5	35	1.0	19500/437	
JANHCA1N5532B	12.0	5.0	90	0.080	10	32	1.0	19500/437	
JANHCA1N5533B	13.0	5.0	90	0.080	15	29	1.0	19500/437	
JANHCA1N5534B	14.0	5.0	100	0.082	20	27	1.0	19500/437	
JANHCA1N5535B	15.0	5.0	100	0.082	20	25	1.0	19500/437	
JANHCA1N5536B	16.0	5.0	100	0.083	20	24	1.0	19500/437	
JANHCA1N5537B	17.0	5.0	100	0.085	20	22	1.0	19500/437	
JANHCA1N5538B	18.0	5.0	100	0.085	20	21	1.0	19500/437	
JANHCA1N5539B	19.0	5.0	100	0.086	20	20	1.0	19500/437	
JANHCA1N5540B	20.0	5.0	100	0.086	20	19	1.0	19500/437	
JANHCA1N5541B	22.0	5.0	100	0.087	25	17	1.0	19500/437	
JANHCA1N5542B	24.0	5.0	100	0.088	30	16	1.0	19500/437	
JANHCA1N5543B	25.0	5.0	100	0.090	35	15	1.0	19500/437	
JANHCA1N5544B	28.0	5.0	100	0.091	40	14	1.0	19500/437	
JANHCA1N5545B	30.0	5.0	100	0.091	45	13	1.0	19500/437	
JANHCA1N5546B	33.0	5.0	100	0.092	50	12	1.0	19500/437	



SPECIALTY DIODE CHIPS

Low Leakage, Controlled Forward Voltage Chips

Part Number	IO	VR at IR1	IR1	VF at IFM1	IFM1	VF2 at IFM2	IFM2	VF3 at IFM3	IFM3	IR3 @ VR3	VR3 at TA	TA	Military	Geometry
	mA	Volts	nA	Volts	mA	Volts	mA	Volts	mA	mA	Volts	ºC	Slash Sheet	
JANHCB1N3595	150	125	1	.52 to .70	1	.65 to .80	10	.79 to .92	100	0.003	125	150	19500/241	D-5
JANKCB1N3595	150	125	1	.52 to .70	1	.65 to .80	10	.79 to .92	100	0.003	125	150	19500/241	

Schottky Barrier Chips

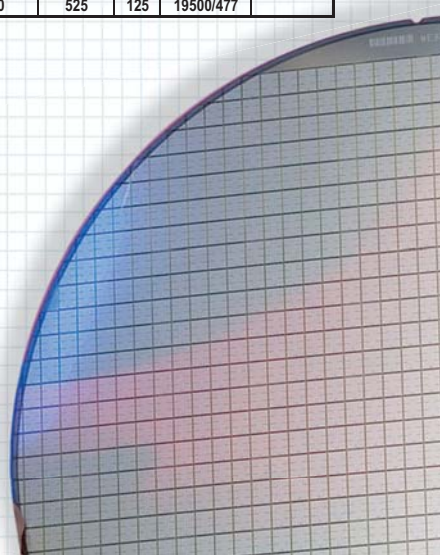
Part Number	IO	VR at IR1	IR1	VF at IFM1	IFM1	VF2 at IFM2	IFM2	IR2 at VR2	VR2	IR3 @ VR3	VR3 at TA	TA	Military	Geometry
	mA	Volts	mA	Volts	mA	Volts	mA	mA	Volts	mA	Volts	ºC	Slash Sheet	
JANHCA1N5711	33	70	0.01	0.41	0.001	1	0.015	0.0002	50	0.2	50	150	19500/444	D-7
JANKCA1N5711	33	70	0.01	0.41	0.001	1	0.015	0.0002	50	0.2	50	150	19500/444	
JANHCA1N5712	75	20	0.01	0.41	0.001	1	0.035	0.00015	16	0.15	16	150	19500/444	
JANKCA1N5712	75	20	0.01	0.41	0.001	1	0.035	0.00015	16	0.15	16	150	19500/444	
JANHCA1N6857	150	20	0.01	0.35	0.001	0.75	0.035	0.00015	16	0.3	16	150	19500/444	
JANKCA1N6857	150	20	0.01	0.35	0.001	0.75	0.035	0.00015	16	0.3	16	150	19500/444	
JANHCA1N6858	75	70	0.01	0.36	0.001	0.65	0.015	0.0002	50	0.4	50	150	19500/444	
JANKCA1N6858	75	70	0.01	0.36	0.001	0.65	0.015	0.0002	50	0.4	50	150	19500/444	
JANHCA1N6677	200	40	0.005	0.37	0.02	0.5	0.2	5	40	0.6	40	100	19500/610	D-14
JANHCA1N6761	1000	100	0.1	0.38	0.1	0.69	1000	-	-	12	100	100	19500/586	D-12
JANHCA1N5819	1000	45	0.05	0.34	0.1	0.49	1000	-	-	4.5	40	100	19500/586	
JANHCA1N5822	3000	40	0.1	0.4	1000	0.5	3000	0.1	40	12.5	40	100	19500/620	D-13
JANKCA1N5822	3000	40	0.1	0.4	1000	0.5	3000	0.1	40	12.5	40	100	19500/620	
JANHCA1N6391	22500	45	1.5	0.5	5000	0.68	50000	1.5	45	40	45	125	19500/553	D-1
JANHCA1N6392	54000	45	2	0.51	10000	0.68	60000	2	45	60	45	125	19500/554	D-2

Switching Chips

Part Number	IO	VR at IR1	IR1	VF at IFM1	IFM1	VF2 at IFM2	IFM2	IR2 @ VR2	VR2	trr	IR3 at TA	TA	Military	Geometry
	mA	Volts	mA	Volts	mA	Volts	mA	nA	Volts	nS	uA	ºC	Slash Sheet	
JANHCA1N4148	200	100	0.1	0.8	10	1.2	100	500	75	5.0	75	150	19500/116	D-3
JANKCA1N4148	200	100	0.1	0.8	10	1.2	100	500	75	5.0	75	150	19500/116	

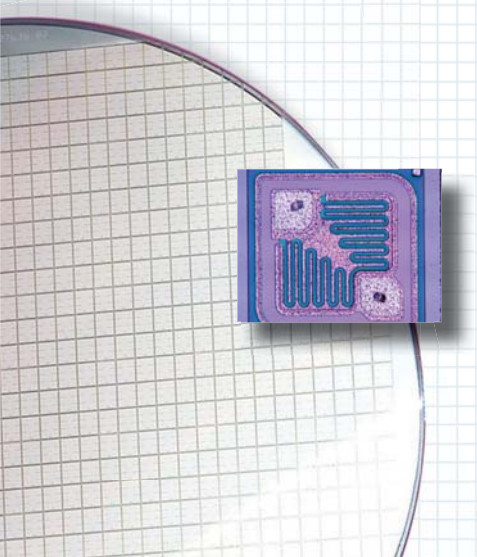
Ultra Fast Power Rectifier Chips

Part Number	IO	VR at IR1	IR1	VF at IFM1	IFM1	VF2 at IFM2	IFM2	IR2 @ VR2	VR2	trr	IR3 at TA	TA	Military	Geometry
	Amps	Volts	uA	Volts	Amps	Volts	Amps	uA	Volts	nS	uA	ºC	Slash Sheet	
JANHCE1N5802	1	50	1	0.875	1	0.975	2.5	100	60	25	175	125	19500/477	D-9
JANKCE1N5802	1	50	1	0.875	1	0.975	2.5	100	60	25	175	125	19500/477	
JANHCE1N5804	1	100	1	0.875	1	0.975	2.5	100	110	25	175	125	19500/477	
JANHCE1N5804	1	100	1	0.875	1	0.975	2.5	100	110	25	175	125	19500/477	
JANHCE1N5806	1	150	1	0.875	1	0.975	2.5	100	160	25	175	125	19500/477	
JANKCE1N5806	1	150	1	0.875	1	0.975	2.5	100	160	25	175	125	19500/477	
JANHCE1N5807	3	50	5	0.865	3	0.925	6	100	60	30	525	125	19500/477	D-11
JANKCE1N5807	3	50	5	0.865	3	0.925	6	100	60	30	525	125	19500/477	
JANHCE1N5809	3	100	5	0.865	3	0.925	6	100	110	30	525	125	19500/477	
JANKCE1N5809	3	100	5	0.865	3	0.925	6	100	110	30	525	125	19500/477	
JANHCE1N5811	3	150	5	0.865	3	0.925	6	100	160	30	525	125	19500/477	
JANHCE1N5811	3	150	5	0.865	3	0.925	6	100	160	30	525	125	19500/477	



TEMPERATURE COMPENSATED ZENER REFERENCE CHIPS

Part Number	VZ at I_z	I_z	Z_z	ΔV_z	Temp.	Military	
	Volts	mA	Ohms	-55ºC to 100ºC	Coefficient	Slash Sheet	Geometry
				mV	%/ºC		
JANHCA1N821	5.59 to 6.51	7.5	15	96	0.01	19500/159	
JANKCA1N821	5.59 to 6.51	7.5	15	96	0.01	19500/159	
JANHCA1N823	5.59 to 6.51	7.5	15	48	0.005	19500/159	
JANHCA1N823	5.59 to 6.51	7.5	15	48	0.005	19500/159	
JANHCA1N825	5.59 to 6.51	7.5	15	19	0.002	19500/159	
JANKCA1N825	5.59 to 6.51	7.5	15	19	0.002	19500/159	
JANHCA1N827	5.59 to 6.51	7.5	15	9	0.001	19500/159	
JANKCA1N827	5.59 to 6.51	7.5	15	9	0.001	19500/159	
JANHCA1N829	5.59 to 6.51	7.5	15	5	0.0005	19500/159	
JANKCA1N829	5.59 to 6.51	7.5	15	5	0.0005	19500/159	
JANHCA1N4565A	6.08 to 6.72	0.5	200	100	0.01	19500/452	
JANKCA1N4565A	6.08 to 6.72	0.5	200	100	0.01	19500/452	
JANHCA1N4566A	6.08 to 6.72	0.5	200	50	0.005	19500/452	
JANKCA1N4566A	6.08 to 6.72	0.5	200	50	0.005	19500/452	
JANHCA1N4567A	6.08 to 6.72	0.5	200	20	0.002	19500/452	
JANKCA1N4567A	6.08 to 6.72	0.5	200	20	0.002	19500/452	
JANHCA1N4568A	6.08 to 6.72	0.5	200	10	0.001	19500/452	
JANKCA1N4568A	6.08 to 6.72	0.5	200	10	0.001	19500/452	
JANHCA1N4569A	6.08 to 6.72	0.5	200	5	0.0005	19500/452	
JANKCA1N4569A	6.08 to 6.72	0.5	200	5	0.0005	19500/452	
JANHCA1N4570A	6.08 to 6.72	1.0	100	100	0.01	19500/452	
JANKCA1N4570A	6.08 to 6.72	1.0	100	100	0.01	19500/452	
JANHCA1N4571A	6.08 to 6.72	1.0	100	50	0.005	19500/452	
JANKCA1N4571A	6.08 to 6.72	1.0	100	50	0.005	19500/452	
JANHCA1N4572A	6.08 to 6.72	1.0	100	20	0.002	19500/452	
JANKCA1N4572A	6.08 to 6.72	1.0	100	20	0.002	19500/452	D-15
JANHCA1N4573A	6.08 to 6.72	1.0	100	10	0.001	19500/452	
JANKCA1N4573A	6.08 to 6.72	1.0	100	10	0.001	19500/452	
JANHCA1N4574A	6.08 to 6.72	1.0	100	5	0.0005	19500/452	
JANKCA1N4574A	6.08 to 6.72	1.0	100	5	0.0005	19500/452	
JANHCA1N4575A	6.08 to 6.72	2.0	50	100	0.01	19500/452	
JANKCA1N4575A	6.08 to 6.72	2.0	50	100	0.01	19500/452	
JANHCA1N4576A	6.08 to 6.72	2.0	50	50	0.005	19500/452	
JANKCA1N4576A	6.08 to 6.72	2.0	50	50	0.005	19500/452	
JANHCA1N4577A	6.08 to 6.72	2.0	50	20	0.002	19500/452	
JANKCA1N4577A	6.08 to 6.72	2.0	50	20	0.002	19500/452	
JANHCA1N4578A	6.08 to 6.72	2.0	50	10	0.001	19500/452	
JANKCA1N4578A	6.08 to 6.72	2.0	50	10	0.001	19500/452	
JANHCA1N4579A	6.08 to 6.72	2.0	50	5	0.0005	19500/452	
JANKCA1N4579A	6.08 to 6.72	2.0	50	5	0.0005	19500/452	
JANHCA1N4580A	6.08 to 6.72	4.0	25	100	0.01	19500/452	
JANKCA1N4580A	6.08 to 6.72	4.0	25	100	0.01	19500/452	
JANHCA1N4581A	6.08 to 6.72	4.0	25	50	0.005	19500/452	
JANKCA1N4581A	6.08 to 6.72	4.0	25	50	0.005	19500/452	
JANHCA1N4582A	6.08 to 6.72	4.0	25	20	0.002	19500/452	
JANKCA1N4582A	6.08 to 6.72	4.0	25	20	0.002	19500/452	
JANHCA1N4583A	6.08 to 6.72	4.0	25	10	0.001	19500/452	
JANKCA1N4583A	6.08 to 6.72	4.0	25	10	0.001	19500/452	
JANHCA1N4584A	6.08 to 6.72	4.0	25	5	0.0005	19500/452	
JANKCA1N4584A	6.08 to 6.72	4.0	25	5	0.0005	19500/452	



ZENER VOLTAGE REGULATOR CHIPS

2.4V to 12V, 500mW

Part Number	Vz at Izt	I_{ZT}	Z_{ZT} @ I_{ZT}	Rated Current	MIL Slash #	Geometry
Note 1	VOLTS	mA	OHMS	mA		
JANHCA1N4370A	2.4	20	30	155	19500/127	D-6
JANKCA1N4370A	2.4	20	30	155	19500/127	
JANHCA1N4371A	2.7	20	30	140	19500/127	
JANKCA1N4371A	2.7	20	30	140	19500/127	
JANHCA1N4372A	3.0	20	29	125	19500/127	
JANKCA1N4372A	3.0	20	29	125	19500/127	
JANHCA1N746A	3.3	20	24	120	19500/127	
JANKCA1N746A	3.3	20	24	120	19500/127	
JANHCA1N747A	3.6	20	22	110	19500/127	
JANKCA1N747A	3.6	20	22	110	19500/127	
JANHCA1N748A	3.9	20	20	100	19500/127	
JANKCA1N748A	3.9	20	20	100	19500/127	
JANHCA1N749A	4.3	20	18	90	19500/127	
JANKCA1N749A	4.3	20	18	90	19500/127	
JANHCA1N750A	4.7	20	15	85	19500/127	
JANKCA1N750A	4.7	20	15	85	19500/127	
JANHCA1N751A	5.1	20	14	75	19500/127	
JANKCA1N751A	5.1	20	14	75	19500/127	
JANHCA1N752A	5.6	20	8	70	19500/127	
JANKCA1N752A	5.6	20	8	70	19500/127	
JANHCA1N753A	6.2	20	3	65	19500/127	
JANKCA1N753A	6.2	20	3	65	19500/127	
JANHCA1N754A	6.8	20	3	60	19500/127	
JANKCA1N754A	6.8	20	3	60	19500/127	
JANHCA1N755A	7.5	20	4	55	19500/127	
JANKCA1N755A	7.5	20	4	55	19500/127	
JANHCA1N756A	8.2	20	5	50	19500/127	
JANKCA1N756A	8.2	20	5	50	19500/127	
JANHCA1N757A	9.1	20	6	45	19500/127	
JANKCA1N757A	9.1	20	6	45	19500/127	
JANHCA1N758A	10.0	20	7	40	19500/127	
JANKCA1N758A	10.0	20	7	40	19500/127	
JANHCA1N759A	12.0	20	10	35	19500/127	
JANKCA1N759A	12.0	20	10	35	19500/127	

NOTE 1: Zener voltage tolerance on "A" suffix is ± 5%. "C" suffix is ± 2% and "D" suffix is ± 1%.

11V to 110V, 500mW

Part Number	Vz at I_{Z1}	I_{Z1}	Z_z @ I_{Z1}	Rated Current	MIL Slash #	Geometry
Note 1	VOLTS	mA	OHMS	mA		
JANHCA1N962B	11	11.5	9.5	35.0	19500/117	D-6
JANHCA1N963B	12	10.5	11.5	32.0	19500/117	
JANHCA1N964B	13	9.5	13	30.0	19500/117	
JANHCA1N965B	15	8.5	16	26.0	19500/117	
JANHCA1N966B	16	7.8	17	25.0	19500/117	
JANHCA1N967B	18	7.0	21	21.0	19500/117	
JANHCA1N968B	20	6.2	25	19.0	19500/117	
JANHCA1N969B	22	5.6	29	17.0	19500/117	
JANHCA1N970B	24	5.2	33	16.0	19500/117	
JANHCA1N971B	27	4.6	41	14.0	19500/117	
JANHCA1N972B	30	4.2	49	13.0	19500/117	
JANHCA1N973B	33	3.8	58	12.0	19500/117	
JANHCA1N974B	36	3.4	70	11.0	19500/117	
JANHCA1N975B	39	3.2	80	9.1	19500/117	
JANHCA1N976B	43	3.0	93	8.8	19500/117	
JANHCA1N977B	47	2.7	105	7.9	19500/117	
JANHCA1N978B	51	2.5	125	7.4	19500/117	
JANHCA1N979B	56	2.2	150	6.9	19500/117	
JANHCA1N980B	62	2.0	185	6.0	19500/117	
JANHCA1N981B	68	1.8	230	5.5	19500/117	
JANHCA1N982B	75	1.7	270	5.1	19500/117	
JANHCA1N983B	82	1.5	330	4.6	19500/117	
JANHCA1N984B	91	1.4	400	4.2	19500/117	
JANHCA1N985B	100	1.3	500	3.7	19500/117	
JANHCA1N986B	110	1.1	750	3.3	19500/117	

NOTE 1: Zener voltage tolerance on "B" suffix is ± 5%.
Suffix "C" is ± 2% and "D" is ± 1%.

ZENER VOLTAGE REGULATOR CHIPS

3.3V to 110V, 1W

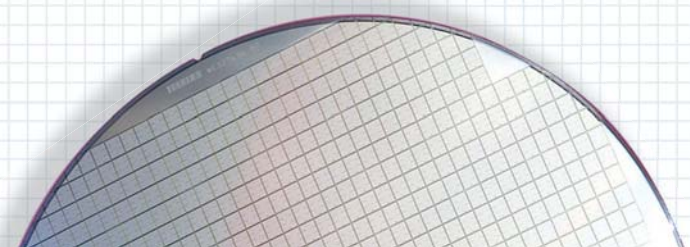
Part Number Note 1	Vz at I_{Z1} VOLTS	I_{Z1} mA	Z_z @ I_{Z1} OHMS	Rated Current mA	V_z (reg) VOLTS	MIL Slash #	Geometry
JANHCA1N3821A	3.3	76	10	276	1.00	19500/115	D-8
JANHCA1N3822A	3.6	69	10	252	0.80	19500/115	
JANHCA1N3823A	3.9	64	9	238	0.75	19500/115	
JANHCA1N3824A	4.3	58	9	213	0.70	19500/115	
JANHCA1N3825A	4.7	53	8	194	0.60	19500/115	
JANHCA1N3826A	5.1	49	7	178	0.50	19500/115	
JANHCA1N3827A	5.6	45	5	162	0.40	19500/115	
JANHCA1N3828A	6.2	41	2	146	0.30	19500/115	
JANHCA1N3016A	6.8	37	3.5	140	0.30	19500/115	
JANHCA1N3017A	7.5	34	4	125	0.35	19500/115	
JANHCA1N3018A	8.2	31	4.5	115	0.40	19500/115	
JANHCA1N3019A	9.1	28	6	105	0.45	19500/115	
JANHCA1N3020A	10	25	7	95	0.50	19500/115	
JANHCA1N3021A	11	23	8	85	0.55	19500/115	
JANHCA1N3022A	12	21	9	80	0.60	19500/115	
JANHCA1N3023A	13	19	10	74	0.65	19500/115	
JANHCA1N3024A	15	17	14	63	0.75	19500/115	
JANHCA1N3025A	16	15.5	16	60	0.80	19500/115	
JANHCA1N3026A	18	14.0	20	52	0.83	19500/115	
JANHCA1N3027A	20	12.5	22	47	0.95	19500/115	
JANHCA1N3028A	22	11.5	23	43	1.00	19500/115	
JANHCA1N3029A	24	10.5	25	40	1.10	19500/115	
JANHCA1N3030A	27	9.5	35	34	1.30	19500/115	
JANHCA1N3031A	30	8.5	40	31	1.40	19500/115	
JANHCA1N3032A	33	7.5	45	28	1.50	19500/115	
JANHCA1N3033A	36	7.0	50	26	1.70	19500/115	
JANHCA1N3034A	39	6.5	60	23	1.80	19500/115	
JANHCA1N3035A	43	6.0	70	21	1.90	19500/115	
JANHCA1N3036A	47	5.5	80	19	2.10	19500/115	
JANHCA1N3037A	51	5.0	95	18	2.30	19500/115	
JANHCA1N3038A	56	4.5	110	17	2.50	19500/115	
JANHCA1N3039A	62	4.0	125	15	2.70	19500/115	
JANHCA1N3040A	68	3.7	150	14	3.00	19500/115	
JANHCA1N3041A	75	3.3	175	12	3.30	19500/115	
JANHCA1N3042A	82	3.0	200	11	3.60	19500/115	
JANHCA1N3043A	91	2.8	250	10	4.00	19500/115	
JANHCA1N3044A	100	2.5	350	9	4.40	19500/115	
JANHCA1N3045A	110	2.3	450	8.3	5.00	19500/115	

NOTE 1: Zener voltage tolerance for "A" suffix is ± 5%. Suffix "C" is ± 2% and "D" is ± 1%.
Example for 1% -order JANHCA1N3022D.

3.3V to 5.1V, 5W

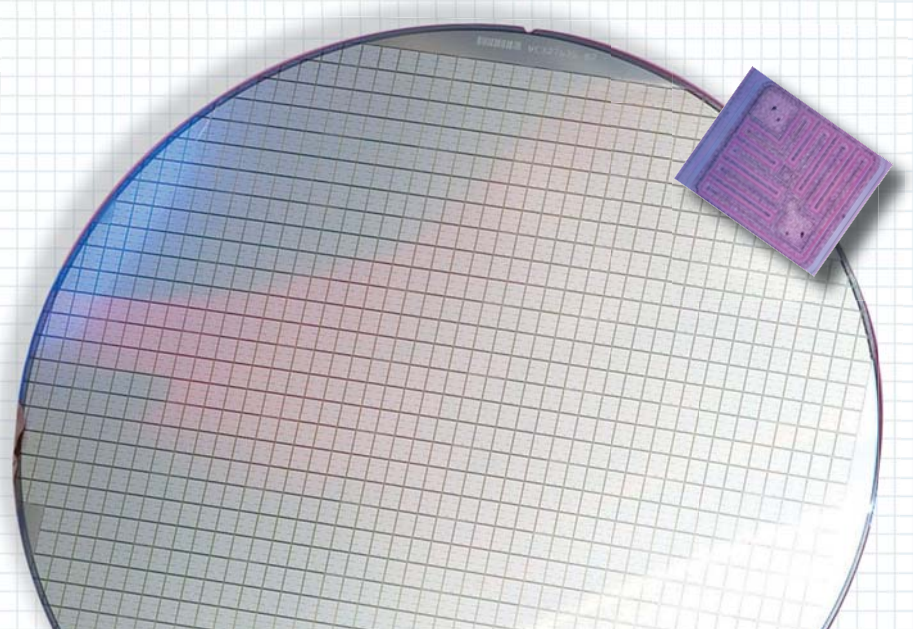
Part Number Note 1	Vz at I_{Z1} VOLTS	I_{Z1} mA	Z_z @ I_{Z1} OHMS	Rated Current mA	V_z (reg) VOLTS	αV_z %/°C	MIL Slash #	Geometry
JANKCA1N6632	3.3	380	3	1,440	0.9	-.075	19500/356	D-10
JANKCA1N6632C	3.3	380	3	1,440	0.9	-.075	19500/356	
JANKCA1N6632D	3.3	380	3	1,440	0.9	-.075	19500/356	
JANKCA1N6633	3.6	350	2.5	1,302	0.8	-.070	19500/356	
JANKCA1N6633C	3.6	350	2.5	1,302	0.8	-.070	19500/356	
JANKCA1N6633D	3.6	350	2.5	1,302	0.8	-.070	19500/356	
JANKCA1N6634	3.9	320	2	1,220	0.75	-.060	19500/356	
JANKCA1N6634C	3.9	320	2	1,220	0.75	-.060	19500/356	
JANKCA1N6634D	3.9	320	2	1,220	0.75	-.060	19500/356	
JANKCA1N6635	4.3	290	2	1,100	0.7	-.050	19500/356	
JANKCA1N6635C	4.3	290	2	1,100	0.7	-.050	19500/356	
JANKCA1N6635D	4.3	290	2	1,100	0.7	-.050	19500/356	
JANKCA1N6636	4.7	260	2	1,010	0.6	±.025	19500/356	
JANKCA1N6636C	4.7	260	2	1,010	0.6	±.025	19500/356	
JANKCA1N6636D	4.7	260	2	1,010	0.6	±.025	19500/356	
JANKCA1N6637	5.1	240	1.5	930	0.5	±.030	19500/356	
JANKCA1N6637C	5.1	240	1.5	930	0.5	±.030	19500/356	
JANKCA1N6637D	5.1	240	1.5	930	0.5	±.030	19500/356	

NOTE 1: All parts with no letter suffix are ± 5% tolerance.
Add a "C" suffix for ± 2% tolerance and a "D" for a ± 1% tolerance.



RADIATION HARDENED TRANSISTOR CHIPS

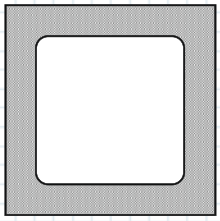
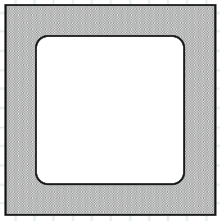
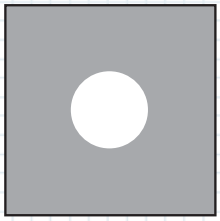
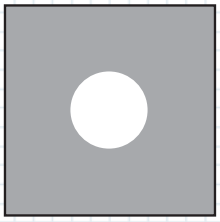
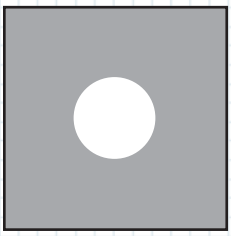
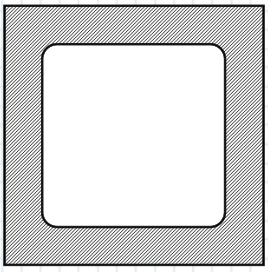
PART NUMBER	MIL SLASH SHEET	MAX TID RATING	TYPE	VOLTAGE	Hfe @ IC	RATED CURRENT	GEOMETRY
JANKCBH2N2221A*	19500/255	1 MEG RAD	NPN SS	50V	40-120, 150mA	800 mA	T-3
JANKCBH2N2222A*	19500/255	1 MEG RAD	NPN SS	50V	100-300, 150mA	800 mA	
JANKCBR2N2221A	19500/255	100K RAD	NPN SS	50V	40-120, 150mA	800 mA	
JANKCBR2N2222A	19500/255	100K RAD	NPN SS	50V	100-300, 150mA	800 mA	
JANKCAF2N2369A	19500/317	300K RAD	NPN SS	15V	30-120, 30mA	100 mA	T-1
JANKCBR2N2906A	19500/291	100K RAD	PNP SS	60V	40-120, 150mA	800 mA	T-3
JANKCBR2N2907A	19500/291	100K RAD	PNP SS	60V	100-300, 150mA	800 mA	
JANKCCR2N3498	19500/366	100K RAD	NPN SS	100V	40-120, 150mA	500 mA	T-4
JANKCCR2N3499	19500/366	100K RAD	NPN SS	100V	100-300, 150mA	500 mA	
JANKCCR2N3500	19500/366	100K RAD	NPN SS	150V	40-120, 150mA	300 mA	
JANKCCR2N3501	19500/366	100K RAD	NPN SS	150V	100-300, 150mA	300 mA	
JANKCAR2N3634	19500/357	100K RAD	PNP SS	140V	50-150, 50mA	1.0 A	
JANKCAR2N3635	19500/357	100K RAD	PNP SS	140V	100-300, 50mA	1.0 A	
JANKCAR2N3636	19500/357	100K RAD	PNP SS	175V	50-150, 50mA	1.0 A	
JANKCAR2N3637	19500/357	100K RAD	PNP SS	175V	100-300, 50mA	1.0 A	
JANKCBR2N3700	19500/391	100K RAD	NPN SS	80V	100-300, 150mA	1.0 A	
JANKCBF2N5002	19500/534	300K RAD	NPN POWER	80V	30-90, 2.5A	10.0 A	T-7
JANKCBF2N5004	19500/534	300K RAD	NPN POWER	80V	70-200, 2.5A	10.0 A	
JANKCDF2N5152	19500/534	300K RAD	NPN POWER	80V	30-90, 2.5A	2.0 A	
JANKCDF2N5154	19500/534	300K RAD	NPN POWER	80V	70-200, 2.5A	2.0 A	



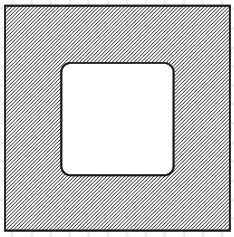
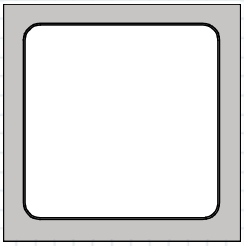
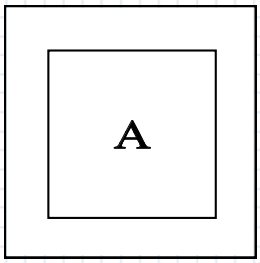
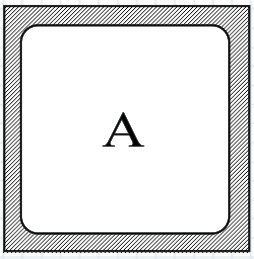
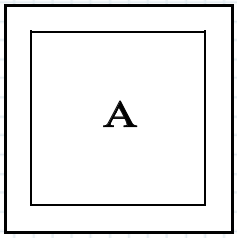
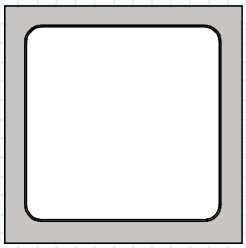
TRANSISTOR CHIPS

PART NUMBER	MIL SLASH SHEET	TYPE	VOLTAGE	Hfe @ IC	RATED CURRENT	GEOMETRY
JANHCB2N2221A	19500/255	NPN SS	50V	40-120, 150mA	800 mA	T-3
JANKCB2N2221A	19500/255	NPN SS	50V	40-120, 150mA	800 mA	
JANHCB2N2222A	19500/255	NPN SS	50V	100-300, 150mA	800 mA	
JANKCB2N2222A	19500/255	NPN SS	50V	100-300, 150mA	800 mA	
JANHCA2N2369A	19500/317	NPN SS	15V	30-120, 30mA	100 mA	T-2
JANKCA2N2369A	19500/317	NPN SS	15V	30-120, 30mA	100 mA	
JANKCA2N2484	19500/376	NPN SS	60V	225-800, 10mA	50 mA	T-1
JANHCB2N2906A	19500/291	PNP SS	60V	40-120, 150mA	800 mA	T-3
JANKCB2N2906A	19500/291	PNP SS	60V	40-120, 150mA	800 mA	
JANHCB2N2907A	19500/291	PNP SS	60V	100-300, 150mA	800 mA	
JANKCB2N2907A	19500/291	PNP SS	60V	100-300, 150mA	800 mA	
JANKCA2N2919	19500/355	NPN SS	60V	150-600, 1mA	30 mA	T-1
JANKCA2N2920	19500/355	NPN SS	60V	300-1000, 1mA	30 mA	
JANKCB2N3439	19500/368	NPN PWR	350V	40-160, 20mA	1.0 A	T-6
JANHCB2N3439	19500/368	NPN PWR	350V	40-160, 20mA	1.0 A	
JANKCB2N3440	19500/368	NPN PWR	250V	40-160, 20mA	1.0 A	
JANHCB2N3440	19500/368	NPN PWR	250V	40-160, 20mA	1.0 A	
JANHCA2N3634	19500/357	PNP PWR	140V	50-150, 50mA	1.0 A	T-4
JANKCA2N3634	19500/357	PNP PWR	140V	50-150, 50mA	1.0 A	
JANHCA3N3635	19500/357	PNP PWR	140V	100-300, 50mA	1.0 A	
JANKCA3N3635	19500/357	PNP PWR	140V	100-300, 50mA	1.0 A	
JANHCA2N3636	19500/357	PNP PWR	175V	50-150, 50mA	1.0 A	
JANKCA2N3636	19500/357	PNP PWR	175V	50-150, 50mA	1.0 A	
JANHCA2N3637	19500/357	PNP PWR	175V	100-300, 50mA	1.0 A	
JANKCA2N3637	19500/357	PNP PWR	175V	100-300, 50mA	1.0 A	
JANHCB2N3700	19500/391	NPN PWR	80V	100-300, 150mA	1.0 A	
JANKCB2N3700	19500/391	NPN PWR	80V	100-300, 150mA	1.0 A	
JANHCA2N3810	19500/336	PNP SS	60V	150-450, 100uA	50 mA	T-1
JANKCA2N3810	19500/336	PNP SS	60V	150-450, 100uA	50 mA	
JANHCA2N3811	19500/336	PNP SS	60V	450-900, 100uA	50 mA	
JANKCA2N3811	19500/336	PNP SS	60V	450-900, 100uA	50 mA	
JANHCA2N4150	19500/394	NPN PWR	70V	40-120, 5A	10.0 A	T-9
JANHCA2N4150	19500/394	NPN PWR	70V	40-120, 5A	10.0 A	
JANHCB2N5002	19500/534	NPN PWR	80V	30-90, 2.5A	10.0 A	T-8
JANKCB2N5002	19500/534	NPN PWR	80V	30-90, 2.5A	10.0 A	
JANHCB2N5004	19500/534	NPN PWR	80V	70-200, 2.5A	10.0 A	
JANKCB2N5004	19500/534	NPN PWR	80V	70-200, 2.5A	10.0 A	
JANHCC2N5151	19500/545	PNP PWR	80V	30-90, 2.5A	10.0 A	T-9
JANKCC2N5151	19500/545	PNP PWR	80V	30-90, 2.5A	10.0 A	
JANHCD2N5152	19500/544	NPN PWR	80V	30-90, 2.5A	10.0 A	T-8
JANKCD2N5152	19500/544	NPN PWR	80V	30-90, 2.5A	10.0 A	
JANHCC2N5153	19500/545	PNP PWR	80V	70-200, 2.5A	10.0 A	T-9
JANKCC2N5153	19500/545	PNP PWR	80V	70-200, 2.5A	10.0 A	
JANHCD2N5154	19500/544	NPN PWR	80V	70-200, 2.5A	10.0 A	T-8
JANKCD2N5154	19500/544	NPN PWR	80V	70-200, 2.5A	10.0 A	
JANKCA2N5237	19500/394	NPN PWR	120V	40-120, 5A	10.0 A	T-9
JANKCA2N5238	19500/394	NPN PWR	170V	40-120, 5A	10.0 A	
JANHCC2N5339	19500/560	NPN PWR	100V	60-240, 2A	5.0 A	
JANKCC2N5339	19500/560	NPN PWR	100V	60-240, 2A	5.0 A	
JANHCB2N5415	19500/485	PNP PWR	200V	30-120, 50mA	1.0 A	T-5
JANKCB2N5415	19500/485	PNP PWR	200V	30-120, 50mA	1.0 A	
JANHCB2N5416	19500/485	PNP PWR	300V	30-120, 50mA	1.0 A	
JANKCB2N5416	19500/485	PNP PWR	300V	30-120, 50mA	1.0 A	
JANHCC2N6193	19500/561	PNP PWR	100V	60-240, 2A	5.0 A	T-9
JANKCC2N6193	19500/561	PNP PWR	100V	60-240, 2A	5.0 A	

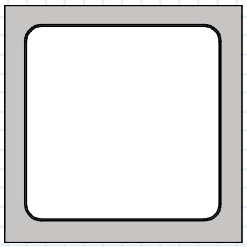
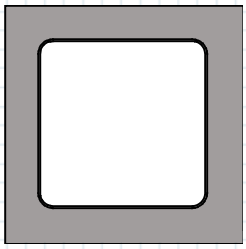
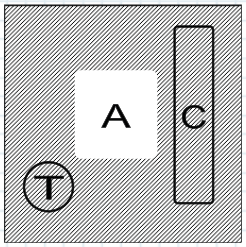
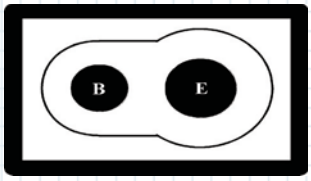
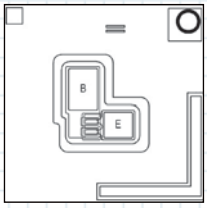
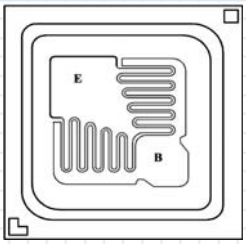
CHIP DIMENSIONS & METALLIZATION

Geometry	Outline	Specification
D-1		1. Chip Size ..... 180 x 180 Mils Nom. 2. Chip Thickness ..... 12.5 Mils Nom. 3. Top Metal (Anode) ..... TiNiAg. 25,000Å Nom. 4. Back Metal (Cathode) ..... TiNiAg. 12,000Å Nom. 5. Backside ..... Cathode 6. Bonding Pad ..... A=172 x 172 mils
D-2		1. Chip Size ..... 215 x 215 Mils Nom. 2. Chip Thickness ..... 12.5 Mils Nom. 3. Top Metal (Anode) ..... TiNiAg. 25,000Å Nom. 4. Back Metal (Cathode) ..... TiNiAg. 12,000Å Nom. 5. Backside ..... Cathode 6. Bonding Pad ..... A=200 x 200 mils
D-3		1. Chip Size ..... 15 x 15 Mils Nom. 2. Chip Thickness ..... 9 Mils Nom. 3. Top Metal (Anode) ..... Alum. 25,000Å Min; 30,000Å Nom. 4. Back Metal (Cathode) ..... Gold 4,000Å Min; 5,000Å Nom. 5. Backside ..... Cathode 6. Bonding Pad ..... A=6 Mils Diameter Circle
D-4		1. Chip Size ..... 15 x 15 Mils 2. Chip Thickness ..... 10 Mils 3. Top Metal (Anode) ..... Alum. 25,000Å Min. 4. Back Metal (Cathode) ..... Gold 4,000Å Min. 5. Backside ..... Cathode 6. Bonding Pad ..... A=4.5 Mils Diameter Circle 7. Tolerances ..... All Dimensions ±2 Mils except Anode Pad whereTolerance is ±0.5 Mils
D-5		1. Chip Size ..... 17 x 17 Mils Nom. 2. Chip Thickness ..... 9 MilsNom. 3. Top Metal (Anode) ..... Alum. 25,000Å Min; 30,000Å Nom. 4. Back Metal (Cathode) ..... Gold 4,000Å Min; 5,000Å Nom. 5. Backside ..... Cathode 6. Bonding Pad ..... A=8 Mils Diameter Circle
D-6		1. Chip Size ..... 23 x 23 Mils 2. Chip Thickness ..... 10 Mils 3. Top Metal (Anode) ..... Alum. 25,000Å Min. 4. Back Metal (Cathode) ..... Gold 4,000Å Min. 5. Backside ..... Cathode 6. Bonding Pad ..... A+15 x 15 Mils 7. Tolerances ..... All Dimensions ±2 Mils 8. Circuit Layout Data ..... For Zener operation, Cathode must be operated positive with respect to Anode

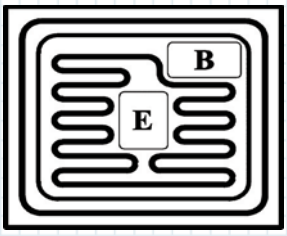
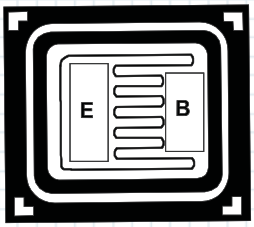
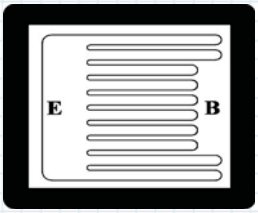
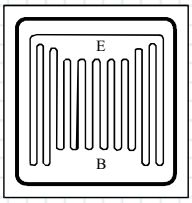
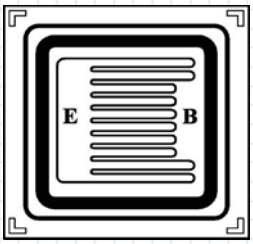
CHIP DIMENSIONS & METALLIZATION

Geometry	Outline	Specification
D-7		1. Chip Size ..... 28 x 28 Mils 2. Chip Thickness ..... 10 Mils 3. Top Metal (Anode) ..... Alum. 25,000Å Min. 4. Back Metal (Cathode) ..... Gold 4,000Å Min. 5. Backside ..... Cathode 6. Bonding Pad ..... A+13 x 13 Mils 7. Tolerances ..... All Dimensions ±2 Mils except Anode Pad where Tolerance is ±0.1 Mils
D-8		1. Chip Size ..... 37 x 37 Mils 2. Chip Thickness ..... 10 Mils 3. Top Metal (Anode) ..... Alum. 25,000Å Min. 4. Back Metal (Cathode) ..... Gold 4,000Å Min. 5. Bonding Pad ..... A = 32 x 32 Mils 6. Tolerances ..... All Dimensions ±2 Mils 7. Circuit Layout Data ..... For Zener operation, Cathode must be operated positive with respect to Anode
D-9		1. Chip Size ..... 45 x 45 Mils ±2 Mils 2. Chip Thickness ..... 10 Mils ±1.5 Mils Nom. 3. Top Metal (Anode) ..... Aluminum 4. Back Metal ..... Gold 4. Backside ..... Cathode 5. Bonding Pad ..... A = 33 x 33 Mils
D-10		1. Chip Size ..... 64 x 64 Mils 2. Chip Thickness ..... 10 Mils 3. Top Metal (Anode) ..... Alum. 25,000Å Min. 4. Back Metal (Cathode) ..... Gold 4,000Å Min. 5. Bonding Pad ..... A = 58 x 58 Mils 6. Tolerances ..... All Dimensions ±2 Mils 7. Circuit Layout Data ..... For Zener operation, Cathode must be operated positive with respect to Anode
D-11		1. Chip Size ..... 70 x 70 Mils ± 2 Mils 2. Chip Thickness ..... 10 Mils ± 1.5 Mils Nom. 3. Top Metal (Anode) ..... Alum. 55,000Å Max; 50,000Å Nom. 4. Back Metal ..... Gold 5,000Å Min. 5. Backside ..... Cathode 6. Bonding Pad ..... A=58 x 58 Mils
D-12		1. Chip Size ..... 37 x 37 Mils 2. Chip Thickness ..... 10 Mils 3. Top Metal (Anode) ..... Alum. 25,000Å Min. 4. Back Metal (Cathode) ..... Gold 4,000Å Min. 5. Bonding Pad ..... A = 32 x 32 Mils 6. Tolerances ..... All Dimensions ±2 Mils

CHIP DIMENSIONS & METALLIZATION

Geometry	Outline	Specification
D-13		1. Chip Size ..... 64 x 64 Mils 2. Chip Thickness ..... 10 Mils 3. Top Metal (Anode) ..... Alum. 25,000Å Min. 4. Back Metal (Cathode) ..... Gold 4,000Å Min. 5. Bonding Pad ..... A = 58 x 58 Mils 6. Tolerances ..... All Dimensions ±2 Mils
D-14		1. Chip Size ..... 24 x 24 Mils Nom. 2. Chip Thickness ..... 10 Mils Nom. 3. Top Metal (Anode) ..... Alum. 25,000Å Min. 4. Back Metal (Cathode) ..... Gold 4,000Å Min. 5. Backside ..... Cathode 6. Bonding Pad ..... A=16 x 16 Mils 7. Tolerances ..... All Dimensions ±2 Mils
D-15		1. Chip Size ..... 30 x 30 Mils 2. Chip Thickness ..... 10 Mils 3. Top Metal (Anode) ..... Alum. 25,000Å Min. 4. Back Metal ..... Gold 4,000Å Min. 5. Backside ..... Not Cathode (must be electricially isolated) 6. Bonding Pad ..... A = 10.5 x 12 Mils; C = 5.5 x 22 Mils 7. Tolerances ..... All Dimensions ±2 Mils 8. Circuit Layout Data ..... For Zener operation, Cathode must be operated positive with respect to Anode
T-1		1. Chip Size ..... 15 x 19 Mils ±1 Mil 2. Chip Thickness ..... 10 Mils ± 1.5 Mil 3. Top Metal ..... Alum. 15,000Å Min; 18,000Å Nominal 4. Back Metal ..... Gold 2,500Å Min; 5,000Å Nominal 5. Backside ..... Collector 6. Bonding Pad ..... B = 3Mils, E= 4 Mils Diameter 8. Passivation ..... Si_3N_4 (Silicon Nitride) 2kÅ Min, 2.2kÅ nom.
T-2		1. Chip Size ..... 20 x 20 Mils ±2 Mils 2. Chip Thickness ..... 10 ± 1.5 Mils Nom. 3. Top Metal ..... Alum. 10,000Å Min; 12,000Å Nom. 4. Back Metal ..... Gold 3,500Å Min; 5,000Å Nom. 5. Backside ..... Collector 6. Bonding Pad ..... B=4 x 4.5 Mils; E= 4.5 x 5 Mils
T-3		1. Chip Size ..... 23 x 23 Mils ± 2 Mils 2. Chip Thickness ..... 10 Mils ± 1.5 Mils 3. Top Metal ..... Alum. 15,000Å Min; 18,000Å Nom. 4. Back Metal (Cathode) ..... Gold 2.5kÅ Min; 5, 000Å Nom. 5. Backside ..... Collector 6. Bonding Pad ..... B = 4.2 x 4.2 Mils; E = 4.2 x 4.2 Mils 7. Glassivation ..... Si_3N_4 2k Min; 2.2k Nom.

CHIP DIMENSIONS & METALLIZATION

Geometry	Outline	Specification
T-4		1. Chip Size ..... 24 x 26 Mils ±2 Mils 2. Chip Thickness ..... 10 Mils ± 1.5 Mils Nominal 3. Top Metal ..... Aluminum 15,000Å Min; 18,000Å Nominal 4. Back Metal ..... Gold 3,500Å Min; 5,000Å Nominal 5. Backside ..... Collector 6. Bonding Pad ..... B = 4 x 6Mils; E= 4 Mils Dia.
T-5		1. Chip Size ..... 46 x 46 Mils ±2 Mils 2. Chip Thickness ..... 10 Mils ± 1.5 Mils Nom. 3. Top Metal ..... Alum. 30,000Å Min; 33,000Å Nominal 4. Back Metal ..... Gold 3,500Å Min; 5,000Å Nominal 5. Backside ..... Collector 6. Bonding Pad ..... B = 5 x 8 Mils; E = 10 x 7 Mils
T-6		1. Chip Size ..... 49 x 57 Mils ±2 Mils 2. Chip Thickness ..... 10 Mils ± 1.5 Mil Nom. 3. Top Metal ..... Aluminum 15,000Å Min; 18,000Å Nominal 4. Back Metal ..... Gold 3,500Å Min; 5,000Å Nominal 5. Backside ..... Collector 6. Bonding Pad ..... B = 5 x 8 Mils; E= 9 x 15 Mils
T-7		1. Chip Size ..... 120 x 120 Mils ±2 Mils 2. Chip Thickness ..... 10 Mils ± 1.5 Mils Nominal 3. Top Metal ..... Aluminum 30,000Å Min; 33,000Å Nom. 4. Back Metal ..... Al 5KÅ, Ti 2.5KÅ, Ni 4.5KÅ, Au .4KÅ 5. Backside ..... Collector 6. Bonding Pad ..... B = 52 x 12 Mils; E = 84 x 12 Mils
T-8		1. Chip Size ..... 120 x 120 Mils ± 2 Mils 2. Chip Thickness ..... 14.0 Mils Nom. 3. Top Metal (Anode) ..... Aluminum 4. Back Metal ..... Al/Ti/Ni/Au 5. Emitter Pad ..... 50 Mils x 12 Mils 6. Base Pad ..... 60 Mils x 12 Mils
T-9		1. Chip Size ..... 128 x 128 Mils ±2 Mils 2. Chip Thickness ..... 10 Mils ± 1.5 Mil Nom. 3. Top Metal ..... Aluminum 30,000Å Min; 33,000Å Nominal 4. Back Metal ..... Al 5KÅ, Ti 2.5KÅ, Ni 4.5KÅ, Au .4KÅ 5. Backside ..... Collector 6. Bonding Pad ..... B = 52 x 12 Mils; E= 84 x 12 Mils