TABLE I. DEVICE PARAMETERS 1/

JPL PART # ST11558-	MFG.	GENERIC PART #	PACKAGE STYLE	DETAIL SCREENING TESTS	ELECTRICAL CHARACTERISTICS & GROUP A TESTS	RADIATION (TID) LEVEL RAD(Si)
DZ7706SR through DZ7790SR	MSC SSD	UZ7706 through UZ7790 SZ7706 through SZ7790	STUD 2/	Table II	Tables III and IV	100k 3/

NOTES:

1/ This drawing, in conjunction with CS515581, imposes all requirements for procurement of these devices.

2/ Device physical dimensions shall conform to Figure 1 below.

3/ Sufficient radiation tolerance to this TID level is guaranteed by design for this device. (See CS515581, Paragraph 4.7.7).

4. This standard takes precedence over documents referenced herein.

RELEASED THRU SECTION 356 DATA MANAGEMENT: DATE:

REVISION: D APPROVED BY: DATE:

APPROVED SOURCE(S)

VENDOR PART NO	VENDOR	JPL PART NO
[illegible]	[illegible]	[illegible]

THE ITEM LISTED IN THE APPROVED SOURCE BLOCK AND IDENTIFIED BY VENDOR NAME, ADDRESS, AND PART NUMBER WILL BE EVALUATED AND TESTED BY THE JPL ELECTRONIC PARTS RELIABILITY SECTION OR ITS DELEGATED ALTERNATE BEFORE BEING APPROVED FOR USE. NON-JPL USERS SHALL CHECK WITH THE ELECTRONIC PARTS RELIABILITY SECTION ON THE STATUS OF THE PART'S APPROVAL BEFORE USING.

JET PROPULSION LABORATORY CALIFORNIA INSTITUTE OF TECHNOLOGY

CAGE NO 23835

Procurement specification: CS515581
Screening specification: ZPP-2073-GEN

TITLE:

DIODE, SILICON, POWER ZENER
VOLTAGE REGULATOR, 10W @ T_c=100°C

DETAIL SPECIFICATION

TABLE II. DETAIL SCREENING REQUIREMENTS

SCREEN (SEE MIL-S-19500, TABLE II)	TEST CONDITIONS/REQUIREMENTS
3. TEMPERATURE CYCLE	AS SPECIFIED.
9. INTERIM ELECTRICAL PARAMETERS	I_R at V_R, V_Z at I_{ZT} PER TABLE III, SUBGROUP 2.
10. HIGH TEMPERATURE REVERSE BIAS (HTRB) 1/	MIL-STD-750, METHOD 1038, CONDITION A. T_A= 150°C, AT 80% OF MINIMUM V_Z.
11. INTERIM ELECTRICAL AND DELTA PARAMETERS	SAME PARAMETERS AS STEP 9 ABOVE DELTA LIMITS: ΔI_R= ±20% OF INITIAL OR ±2uA, WHICHEVER IS GREATER ΔV_Z= ±2% OF INITIAL
12. POWER BURN-IN	MIL-STD-750, METHOD 1038, CONDITION B 240 HOURS AT T_C=100°C ± 5°C I_{ZM} PER TABLE IV.
13. FINAL ELECTRICAL TESTS A. PARAMETERS B. DELTA LIMITS	 SUBGROUPS 2 AND 3 OF TABLE III. SAME PARAMETERS AND LIMITS AS 11 ABOVE.

Notes: 1/ Omit HTRB test for devices with nominal V_Z ≤ 10V.

TABLE III. GROUP A ELECTRICAL TESTS (T_A= 25°C)

TEST	MIL-STD-750 METHOD	TEST CONDITIONS	LIMITS		
			MIN	MAX	UNITS
SUBGROUP 2 REVERSE LEAKAGE, I_R @ V_R	4016	TABLE IV		TABLE IV	uA
ZENER VOLTAGE, V_Z @ I_{ZT}	4022	TABLE IV	TABLE IV	TABLE IV	VOLTS
SUBGROUP 3 ZENER IMPEDANCE, Z_Z at I_{ZT}		TABLE IV		TABLE IV	OHMS
SUBGROUPS 4 THROUGH 7 1/					

Notes: 1/ These tests not applicable unless specified.

TABLE IV. ELECTRICAL CHARACTERISTICS (T_A= 25°C)

PART TYPE	V_Z at I_{ZT} (VOLTS)			I_{ZT} (mA)	I_R (MAX) @ V_R		Z_Z (MAX) at I_{ZT} (VOLTS)	I_{ZM} (mA)
	NOM	MIN	MAX		I_R (uA)	V_R (VOLTS)		
DZ7706	6.8	6.46	7.14	350	1000	5.2	Ø.6	1350
DZ7707	7.5	7.13	7.87	325	800	5.7	Ø.7	1250
DZ7708	8.2	7.79	8.61	300	200	6.2	Ø.8	1150
DZ7709	9.1	8.65	9.55	275	150	6.9	1.0	1020
DZ7710	10	9.50	10.5	250	100	7.6	1.0	950
DZ7712	12	11.4	12.6	200	75	9.1	1.3	770
DZ7713	13	12.35	13.65	200	50	9.9	1.5	700
DZ7714	14	13.30	14.70	175	40	10.6	1.5	640
DZ7715	15	14.25	15.75	150	30	11.4	2.0	600
DZ7716	16	15.2	16.8	150	20	12.2	2.5	550
DZ7718	18	17.1	18.9	130	20	13.7	3.5	500
DZ7720	20	19.0	21.0	120	20	15.2	4.0	440
DZ7722	22	20.9	23.1	100	20	16.7	4.5	390
DZ7724	24	22.8	25.2	100	20	18.2	5.0	360
DZ7727	27	25.7	28.3	90	20	20.6	6.0	310
DZ7730	30	28.5	31.5	80	20	22.8	8.0	280
DZ7733	33	31.4	34.6	70	10	25.1	10.0	260
DZ7736	36	34.2	37.8	60	10	27.4	12.0	240
DZ7740	40	38.0	42.0	60	10	30.4	15	210
DZ7745	45	42.8	47.2	50	10	34.2	20	180
DZ7750	50	47.5	52.5	50	10	38.0	22	170
DZ7756	56	53.2	58.8	40	10	42.6	30	160
DZ7760	60	57.0	63.0	40	10	45.6	35	150
DZ7770	70	66.5	73.5	35	10	53.2	40	130
DZ7775	75	71.3	78.7	30	10	56.0	45	120
DZ7780	80	76.0	84.0	30	10	60.8	60	110
DZ7790	90	85.5	94.5	25	10	68.4	75	100

		VOLTAGE REGULATOR		
SHEET OF			SHEET 3 OF 3	

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