TABLE I. DEVICE PARAMETERS 1/

JPL PART # ST12172-	MFG.	GENERIC PART #	PACKAGE STYLE	DETAIL SCREENING TESTS	ELECTRICAL CHARACTERISTICS & GROUP A TESTS	RADIATION (TID) LEVEL RAD(Si)
QN4392TR	SIX/MOT	2N4392	TO-18 2/	Table III	Table 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 MIL-S-19500, Appendix F, Figure 9.

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.

TABLE II. MANUFACTURERS MAXIMUM RATINGS (T_A=25°C)

PARAMETER	RATING	UNITS
V_{GD}	-40	Vdc
V_{GS}	-40	Vdc
I_G	50	mA
P_D	300	mW
$R_{\theta(J-A)}$	585	°C/W
T_J, T_{STG}	-65 TO 200	°C

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APPROVED SOURCE(S)

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.

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

JET PROPULSION LABORATORY CALIFORNIA INSTITUTE OF TECHNOLOGY

CAGE NO 23835

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

TITLE: TRANSISTOR, SILICON, JFET N-CHANNEL

DETAIL SPECIFICATION

ST 12172

Custodian: Electronic Parts Reliability Section 514

FILE (Sec. 514): F:\USERS\514\SPECS\ACT-DETL\ST12172.C

TABLE III. DETAIL SCREENING REQUIREMENTS

SCREEN (SEE MIL-S-19500, TABLE II)	TEST CONDITIONS/REQUIREMENTS
3. TEMPERATURE CYCLE	AS SPECIFIED.
9.	NOT APPLICABLE.
10.	NOT APPLICABLE
11. INTERIM ELECTRICAL AND DELTA PARAMETERS	I_{GSS1}, I_{DSS}, $V_{GS(OFF)}$ PER TABLE IV.
12. GATE STRESS BURN-IN	MIL-STD-750, METHOD 1039, CONDITION A 240 HOURS AT T_A=150°C, V_{GS}=32 Vdc.
13. FINAL ELECTRICAL TESTS A. PARAMETERS B. DELTA LIMITS	 SUBGROUPS 2 AND 3 OF TABLE IV BELOW ΔI_{GSS1}=±100 pA OR ±100%, WHICHEVER IS GREATER. ΔI_{DSS}=±10% OF INITIAL VALUE. $\Delta V_{GS(OFF)}$=±10% OF INITIAL VALUE.

TABLE IV. GROUP A ELECTRICAL TESTS

TEST	MIL-STD-750 METHOD	TEST CONDITIONS	LIMITS		
			MIN	MAX	UNITS
SUBGROUP 2 T_A=25°C GATE-SOURCE BREAKDOWN VOLTAGE, $V_{BR(GSS)}$	3401	I_G=-1 uA, V_{DS}=0	-40		Vdc
GATE REVERSE CURRENT, I_{GSS1}	3411	V_{GS}=-20V, V_{DS}=0		-100	pA
SATURATION DRAIN CURRENT, I_{DSS}	3413	V_{DS}=20V, V_{GS}=0 1/	25	75	mA
GATE-SOURCE CUT-OFF VOLTAGE, $V_{GS(OFF)}$	3403	V_{DS}=20V, I_D=1nA	-2.0	-5.0	Vdc
DRAIN-SOURCE ON RESISTANCE, $R_{DS(ON)}$	3423	V_{GS}=0V, I_D=1mA		60	Ω
SUBGROUP 3 GATE REVERSE CURRENT, I_{GSS2}	3411	V_{GS}=-20V, V_{DS}=0 T_A=150°C		-200	nA
SUBGROUPS 4 THROUGH 7 2/					

NOTES:
1/ PULSE TEST: Pulse width ≤ 300usec; Duty Cycle ≤ 2%.
2/ These tests not applicable unless specified.

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