New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

RF TRANSISTORS

2N3932
2N3933

2N3932 and 2N3933 are epitaxial planar transistors of the silicon npn type, with characteristics which make them extremely useful as general-purpose rf amplifiers at frequencies up to 450 MHz.

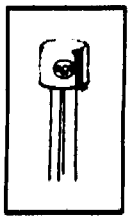
These characteristics include low noise figures at 60, 200, and 450 MHz low feedback capacitance, high gain-bandwidth product, and high power gains in unneutralized amplifier circuits.

The 2N3932 and 2N3933 utilize a compact, hermetically sealed four-lead metal package, in which the active elements of the transistor are insulated from the case. The construction of these devices contributes to highly reliable performance at very- and ultra-high-frequencies, and permits grounding of the case to minimize feedback capacitances and undesired coupling —a feature not available in devices using conventional epoxy-type enclosures.

Maximum Ratings, *Absolute-Maximum Values:*

	2N3932	2N3933	
Collector-to-Base Voltage, V_{CBO}	30	40 max.	V
Collector-to-Emitter Voltage, V_{CEO}	20	30 max.	V
Emitter-to-Base Voltage, V_{EBO}	2.5	2.5 max.	V
Collector Current, I_C	limited by dissipation		
Transistor Dissipation, P_T: at ambient temperatures up to 25° C	200	200 max.	mW
above 25° C	See *Fig. 1*		
Temperature Range: Storage and Operating (Junction)	-65 to 200° C		
Lead Temperature (During Soldering): At distances not less than 1/16" from seating surface for 10 seconds	265	265 max.	°C

SILICON NPN EPITAXIAL PLANAR TYPES



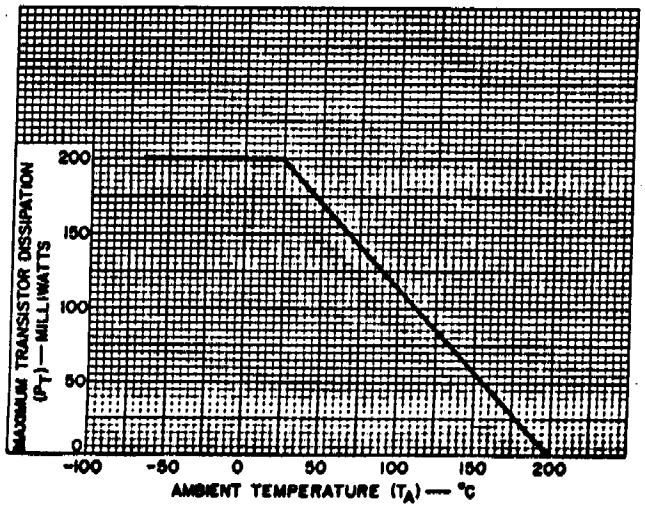
For VHF and UHF Applications in Industrial and Military Equipment

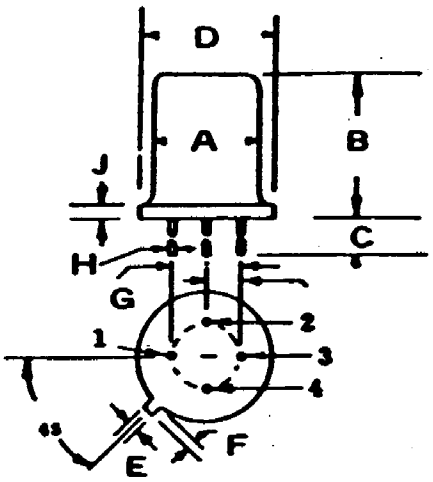
FEATURES

- **low noise figures (NF):**

2N3932	2N3933	
2.5 dB typ.	3 dB max.	@ 60 MHz
4.5 dB max.	4 dB max.	@ 200 MHz
5 dB typ.	5 dB typ.	@ 450 MHz

- **high gain-bandwidth product (f_T):**
  750 MHz min. for both types
- **low collector-to-base time constant ($r_b' C_c$):**
  2N3932 = 8 ps max.
  2N3933 = 6 ps max.
- **high unneutralized power gain (G_{pe}):**
  2N3932 = 11.5 dB min. at 200 MHz
  2N3933 = 14 dB min. at 200 MHz
- **low output capacitance (C_{cb}):**
  C_{cb} = 0.55 pF max. for both types
- **hermetically sealed metal 4-lead package**





	A	B	C	D	E	F	G	H	J
R176	.195	.210	.500 MIN	.230	.036 / .046	.036 / .048	.100	.016 / .019	.030
R176a	.195	.346	.500 MIN	.230	.036 / .046	.036 / .048	.100	.016 / .019	.030
R176b	.220 / .240	.170 / .210	.500 MIN		.036 / .046	.028 / .048	.100	.016 / .019	.030 MAX
R176c	.305 / .335	.150 / .260	.500 MIN	.335 / .370	.028 / .034	.029 / .045	.200 BSC	.016 / .021	.009 / .125
R176d	.324	.259 MAX	.748	.370 MAX	.031	.029	.200	.017	.027
R176e	.315 / .335	.240 / .260	.500 MIN	.340 / .370	.028 / .034	.029 / .043		.016 / .021	
R176f	.194	.208	.539	.228			.098	.018 MAX	
R176g	.192 MAX	.208	.118	.229			.106	.019 MAX	
R176h	.335 MAX	.260 MAX	.748 MIN	.370 MAX	.031	.031	.200	.016 MIN	.039
R176J	.334 MAX	.259 MAX	.925 MIN	.369 MAX	.031	.031	.200	.016	.039
R176k		.210	.500 MIN	.230					