

New Jersey Semi-Conductor Products, Inc.

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

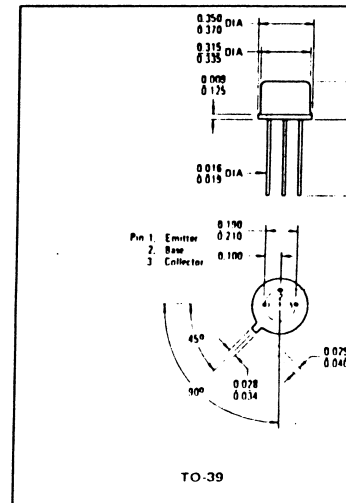
TELEPHONE: (973) 378-2922
(212) 227-8005
FAX: (973) 378-8960

2N3137 (SILICON)

NPN silicon annular transistors for large signal VHF and UHF applications.

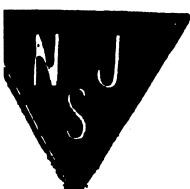
MAXIMUM RATINGS

Rating	Symbol	2N3137	Units
Collector-Base Voltage	V_{CB}	40	Vdc
Collector-Emitter Voltage	V_{CEO}	20	Vdc
Emitter-Base Voltage	V_{EB}	4.0	Vdc
Collector Current (Continuous)	I_C	150	mAdc
Power Dissipation @25° C Case Temperature @25° C Ambient Temperature	P_D	2.0 0.8	Watts
Operating Junction Temperature Storage Temperature Range	T_J , T_{stg}	-65 to +200	°C
Thermal Resistance Junction to Case	θ_{JC}	87.5	°C/Watt
Thermal Resistance Junction to Ambient	θ_{JA}	153	°C/Watt



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typical	Max	Unit
Collector-Base Breakdown Voltage $I_C = 0.1\text{mAdc}$, $I_E = 0$	V_{CBO}	40			Vdc
Collector-Emitter Open Base Sus. Voltage $I_C = 15\text{mAdc}$, $I_B = 0$	$V_{CEO(sus)}$	20			Vdc
Collector Cutoff Current $V_{CB} = 20\text{Vdc}$, $I_E = 0$, $T_C = +150^\circ\text{C}$	I_{CBO}			50	μAdc
Collector Cutoff Current $V_{CB} = 20\text{Vdc}$, $I_E = 0$	I_{CBO}			.05	μAdc
Emitter-Base Breakdown Voltage $I_E = 100\mu\text{A}$, $I_C = 0$	V_{EBO}	4.0			Vdc
DC Current Gain $V_{CE} = 5\text{Vdc}$, $I_C = 50\text{mAdc}$	h_{FE}	20		120	
Collector-Emitter Saturation Voltage $I_C = 50\text{mAdc}$, $I_E = 5\text{mAdc}$	$V_{CE(sat)}$			0.3	Vdc
Small Signal Current Gain $V_{CE} = 10\text{Vdc}$, $I_C = 50\text{mAdc}$, $f = 100\text{ MHz}$	$ h_{fe} $	5.0			
Common-base Output Capacitance $V_{CB} = 10\text{Vdc}$, $I_C = 0$, $f = 100\text{ kHz}$	C_{ob}			3.5	pF
Power Output $P_{in} = 100\text{mw}$, $f = 250\text{ MHz}$	P_{out}	400	600		mWatts
Power Gain	G_e	6.0	7.7		dB
Efficiency $V_{CE} = 20\text{Vdc}$	η	40	65		%



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