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

2N3133 — 2N3134

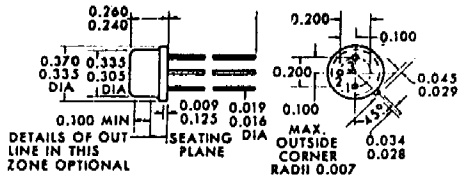
PNP Silicon Epitaxial Transistors

APPLICATIONS

These transistors are designed for use as small signal and medium power amplifiers as well as high speed, high current switching applications.

MECHANICAL OUTLINE

TO-5 Collector in contact with case.



MAXIMUM RATINGS

Total Device Dissipation	**600 mW**
Storage Temperature	**−65°C to +200°C**
Collector Current	**600 mA**

DESIGN CHARACTERISTICS AT 25°C (Except as Noted)

SYMBOL	PARAMETER	TEST CONDITIONS		MIN.	MAX.	UNITS
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 10\mu A$, $I_E = 0$		−50		V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 10mA$, $I_B = 0$		−35		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 10\mu A$, $I_C = 0$		− 4		V
I_{CBO}	Collector Cut-off Current	$V_{CB} = -30V$, $I_E = 0$, $T_A = 25°C$		-	50	nA
		$T_A = 150°C$		-	30	μA
I_{CEX}	Collector Reverse Current	$V_{CE} = -30V$, $V_{EB} = .5V$		-	0.1	μA
h_{FE}	D.C. Forward Current Transfer Ratio	$V_{CE} = -10V$, $I_C = 1mA$		-	-	-
			2N3133	25	-	-
			2N3134	50	-	-
		*$I_C = 150mA$	2N3133	40	120	-
			2N3134	100	300	-
		*$V_{CE} = 1.0V$, $I_C = 150mA$	2N3133	10	-	-
			2N3134	25	-	-
*V_{CE}(sat)	Collector Saturation Voltage	$I_C = 150mA$, $I_B = 15mA$		-	−0.6	V
*V_{BE}(sat)	Base-Saturation Voltage	$I_C = 150mA$, $I_B = 15mA$		-	−1.5	V
h_{fe}	A.C. Forward Current Transfer Ratio	$V_{CE} = -20V$, $I_C = 50mA$, $f = 100mc$		2.0	-	-
C_{ob}	Collector Capacitance	$V_{CB} = -10V$, $I_E = 0$, $f = 100kc$		-	10	pf
C_{ib}	Input Capacitance	$V_{BE} = -2V$, $I_C = 0$, $f = 100kc$		-	40	pf
t_{ON}	Turn-on Time	$V_{CC} = -30V$, $I_{CS} = 150mA$, $I_{B_1} = 15mA$		-	75	nsec
t_{OFF}	Turn-off Time	$V_{CC} = -6V$, $I_{CS} = 150mA$		-	-	-
		$I_{B_1} = -I_{B_2} = 15mA$			150	nsec

* Pulse Test: Pulse width ≤ 300 nsec, duty cycle 2%