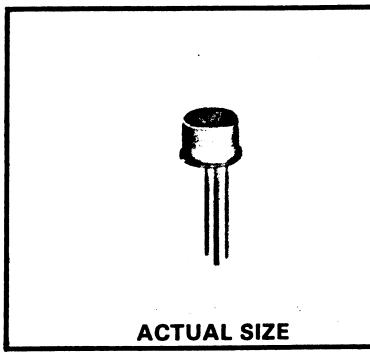
New Jersey Semi-Conductor Products, Inc.

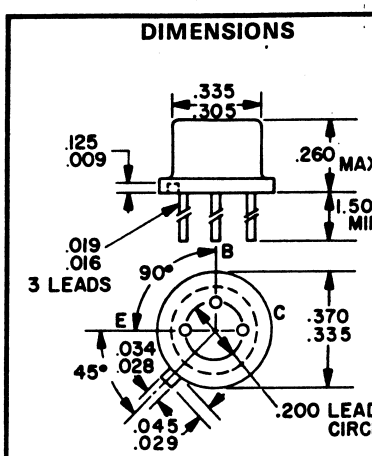
20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

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

GENERAL PURPOSE HIGH-VOLTAGE PNP SILICON PLANAR EPITAXIAL TRANSISTORS



ACTUAL SIZE



TO-5

- **High Voltage: −80V (2N4031, 3)**
- **High Gain: 100 min. @ 100mA (2N4032, 3)**
- **Low V_{CE} (sat): −0.15V @ 150mA**

2N4030, 2N4031, 2N4032, 2N4033 are high voltage PNP silicon planar epitaxial transistors useful in a variety of applications. Excellent linearity of current gain, high breakdown voltage and low saturation voltage combine in this 150MHz f_t device to increase the possible uses for this device. Primary applications are high voltage output stages and complementary drivers.

ABSOLUTE MAXIMUM RATINGS

CHARACTERISTICS	2N4030 2N4032	2N4031 2N4033	UNI
Collector-to-Base Voltage	−60	−80	Vol
Collector-to-Emitter Voltage (open base)	−60	−80	Vol
Emitter-to-Base Voltage	−5	−5	Vol
Collector Current	1.0	1.0	Am
Junction Temperature (op. and stg.)	−65 to +200		°C
Total Dissipation @ T_C=25°C	4.0		Wat
(derate above 25°C)	22.8		mW
Total Dissipation @ T_A=25°C	0.8		Wat
(derate above 25°C)	4.56		mW

Quality Semi-Conductors

New Jersey Semi-Conductor Products, Inc.

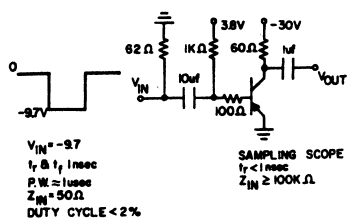
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ELECTRICAL CHARACTERISTICS @ 25°C unless otherwise noted.

SYMBOL	2N4030 MIN.	2N4030 MAX.	2N4031 MIN.	2N4031 MAX.	2N4032 MIN.	2N4032 MAX.	2N4033 MIN.	2N4033 MAX.	UNIT	CONDITIONS
BV_{CBO}	−60		−80		−60		−80		Vdc	I_C= −10μA
LV_{CEO}[1,2]	−60		−80		−60		−80		Vdc	I_C= −10mA
BV_{EBO}	−5.0		−5.0		−5.0		−5.0		Vdc	I_C= −10μA
h_{FE}[1]	40	120	40	120	100	300	100	300		I_C= −100mA V_{CE}= −5V
	30		30		75		75			I_C= −100μA V_{CE}= −5V
	25		25		70		70			I_C= −500mA V_{CE}= −5V
	15		15		40		40			I_C= −100mA V_{CE}= −5V T_A= −55°C
	15		10		40		25			I_C= −1A V_{CE}= −5V
$V_{CE}(sat)$[1]		−0.15		−0.15		−0.15		−0.15	Vdc	I_C= −150mA I_B= −15mA
		−0.50		−0.50		−0.50		−0.50	Vdc	I_C= −500mA I_B= −50mA
		−1.0				−1.0			Vdc	I_C= −1A I_B= −100mA
$V_{BE}(sat)$[1]		−0.9		−0.9		−0.9		−0.9	Vdc	I_C= −150mA I_B= −15mA
		−1.1		−1.1		−1.1		−1.1	Vdc	I_C= −500mA V_{CE}= −0.5V
		−1.2		−1.2		−1.2		−1.2	Vdc	I_C= −1A V_{CE}= −1V
I_{CBO}		−50		−50		−50		−50	nAdc	V_{CB}= −50V
									nAdc	V_{CB}= −60V
		−50				−50			μAdc	V_{CB}= −50V T_A=150°C
				−50				−50	μAdc	V_{CB}= −60V T_A=150°C
I_{EBO}		−10		−10		−10		−10	μAdc	V_{EB}= −5V
C_{ob}		20		20		20		20	pF	V_{CB}= −10V f=1MHz
C_{ib}		110		110		110		110	pF	V_{EB}= −0.5V f=1MHz
$\|h_{fe}\|$	1.0	4.0	1.0	4.0	1.5	5.0	1.5	5.0		V_{CE}= −10V I_C= −50mA f=100MHz
t_{on}		100		100		100		100	ns	I_C≈500mA
t_s		350		350		350		350	ns	I_{B1}≈50mA
t_f		50		50		50		50	ns	I_{B2}≈50mA

SWITCHING TIME TEST CIRCUIT



SILICON GENERAL PURPOSE TRANSISTORS

2N4030 2N4031 2N4032 2N4033

Quality Semi-Conductors