



NES

NEW ENGLAND SEMICONDUCTOR

2N5322

2N5323

PNP SWITCHING TRANSISTORS

MAXIMUM RATINGS

RATINGS	SYMBOL	2N5322	2N5323	UNITS
Collector-Emitter Voltage	V_{CEO}	75	50	Vdc
Collector-Base Voltage	V_{CBO}	100	75	Vdc
Emitter-Base Voltage	V_{EBO}	7.0	5.0	Vdc
Base Current	I_B	1.0		Adc
Collector Current -- Continuous	I_C	2.0		Adc
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate Above 25°C	P_D	10 0.057		W mW/ $^\circ\text{C}$
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200		$^\circ\text{C}$

THERMAL CHARACTERISTICS

CHARACTERISTICS	SYMBOL	MAX.	UNITS
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	17.5	$^\circ\text{C/W}$

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

Characteristics	SYMBOL	Min	Max	UNITS
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage $I_C = 100 \text{ mAdc}, I_B = 0$	2N5322 2N5323	$V_{(BR)CEO}$	75 50	Vdc
Collector Cutoff Current $V_{CE} = 100 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$ $V_{CE} = 70 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}, T_C = 150^\circ\text{C}$ $V_{CE} = 75 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$ $V_{CE} = 45 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}, T_C = 150^\circ\text{C}$	2N5322 2N5322 2N5323 2N5323	I_{CEX}	0.1 5.0 0.1 5.0	mAdc
Emitter Cutoff Current $V_{BE} = 7.0 \text{ Vdc}, I_C = 0$ $V_{BE} = 5.0 \text{ Vdc}, I_C = 0$	2N5322 2N5323	I_{EBO}	0.1 0.1	mAdc

ON CHARACTERISTICS (1)

DC Current Gain $I_C = 500 \text{ mAdc}, V_{CE} = 4.0 \text{ Vdc}$ $I_C = 1.0 \text{ Adc}, V_{CE} = 2.0 \text{ Vdc}$	2N5322 2N5323 2N5322	h_{FE}	30 40 10	130 250 -
Collector-Emitter Saturation Voltage $I_C = 500 \text{ mAdc}, I_B = 50 \text{ mAdc}$	2N5322 2N5323	$V_{CE(sat)}$	0.7 1.2	Vdc
Base-Emitter On Voltage $I_C = 500 \text{ mAdc}, V_{CE} = 4.0 \text{ Vdc}$	2N5322 2N5323	$V_{BE(on)}$	1.1 1.4	Vdc

SMALL-SIGNAL CHARACTERISTICS

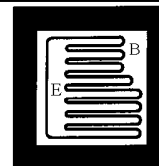
Small-Signal Current Gain $V_{CE} = 4.0 \text{ Vdc}, I_C = 50 \text{ mAdc}, f = 10 \text{ MHz}$	h_{fe}	5.0		
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SWITCHING CHARACTERISTICS

Turn-On Time $V_{CC} = 30 \text{ Vdc}, I_C = 500 \text{ mAdc}, I_{B1} = 50 \text{ mAdc}$	t_{on}		100	ns
Turn-Off Time $V_{CC} = 30 \text{ Vdc}, I_C = 500 \text{ mAdc}, I_{B1} = I_{B2} = 50 \text{ mAdc}$	t_{off}		1000	ns

(1) Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$.

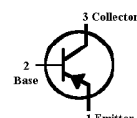
PNP
2075



- Chip size.....75 x 75 mils $\pm$ 2 mils
- Chip thickness.....8 - 12 mils nominal
- Top metal.....Aluminum 25,000Å minimum, 30,000Å nominal
- Back metal.....A. Ti/Ni/Ag 2kÅ/7kÅ/7kÅ min., 3kÅ/10kÅ/10kÅ nom.
B. Gold 1,500Å minimum, 2,500Å nominal
- Backside.....Collector
- Bonding pad.....B - 19 x 8 mils, E - 35 x 8 mils



TO-39



NEW ENGLAND SEMICONDUCTOR

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