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NPN SILICON TRANSISTOR

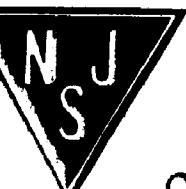
JEDEC TO-46 CASE

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

	<u>SYMBOL</u>		<u>UNITS</u>
Collector-Base Voltage	V_{CB0}	75	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	800	mA
Power Dissipation	P_D	600	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +200	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	292	$^\circ\text{C/W}$

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

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
I_{CEV}	$V_{CE} = 60\text{V}, V_{BE(\text{off})} = 3.0\text{V}$		10	nA
I_{CBO}	$V_{CB} = 60\text{V}$		10	nA
I_{CBO}	$V_{CB} = 60\text{V}, T_A = 150^\circ\text{C}$		10	μA
I_{EBO}	$V_{EB} = 3.0\text{V}$		10	nA
BV_{CB0}	$I_C = 10\mu\text{A}$	75		V
BV_{CEO}	$I_C = 10\text{mA}$	40		V
BV_{EBO}	$I_E = 10\mu\text{A}$	6.0		V
$V_{CE(\text{SAT})}$	$I_C = 150\text{mA}, I_B = 15\text{mA}$		0.3	V
$V_{CE(\text{SAT})}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$		1.0	V
$V_{BE(\text{SAT})}$	$I_C = 150\text{mA}, I_B = 15\text{mA}$	0.6	1.2	V
$V_{BE(\text{SAT})}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$		2.0	V
h_{FE}	$V_{CE} = 10\text{V}, I_C = 100\mu\text{A}$	35		-
h_{FE}	$V_{CE} = 10\text{V}, I_C = 1.0\text{mA}$	50		-
h_{FE}	$V_{CE} = 10\text{V}, I_C = 10\text{mA}$	75		-
h_{FE}	$V_{CE} = 10\text{V}, I_C = 10\text{mA}, T_A = -55^\circ\text{C}$	35		-
h_{FE}	$V_{CE} = 10\text{V}, I_C = 150\text{mA}$	100	300	-
h_{FE}	$V_{CE} = 1.0\text{V}, I_C = 150\text{mA}$	50		-
h_{FE}	$V_{CE} = 10\text{V}, I_C = 500\text{mA}$	40		-



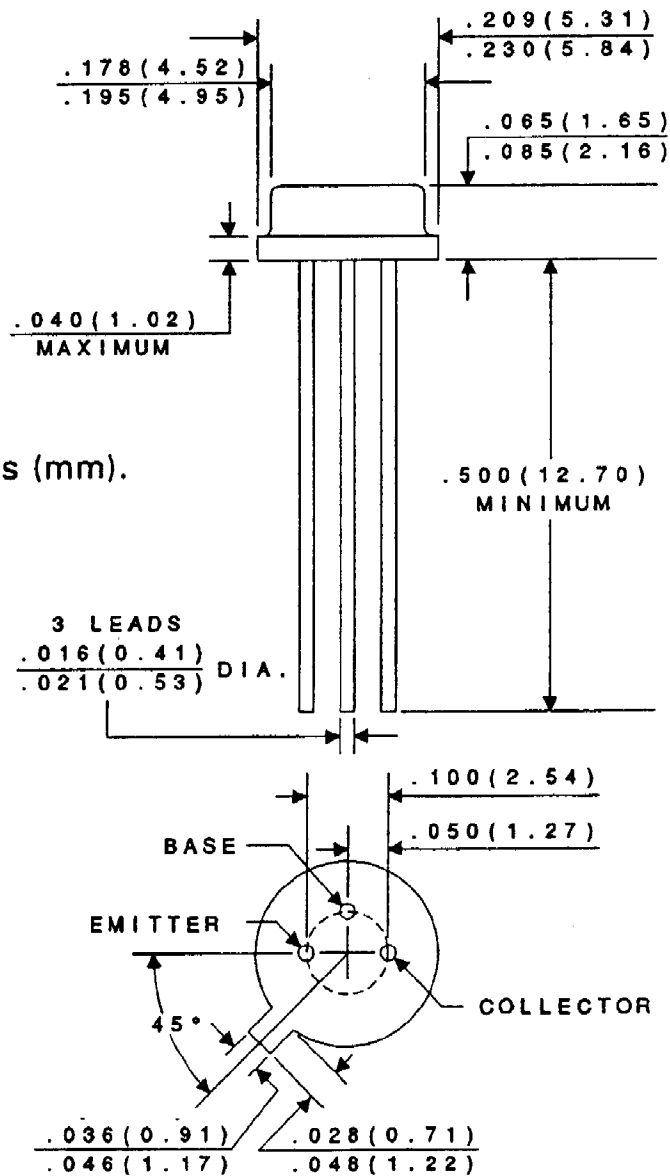
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Quality Semi-Conductors

ELECTRICAL CHARACTERISTICS (Continued)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
f_T	$V_{CE} = 20V, I_C = 20mA, f = 100MHz$	300		MHz
C_{cb}	$V_{CB} = 10V, I_E = 0, f = 100kHz$		8.0	pF
C_{ib}	$V_{EB} = 0.5V, I_C = 0, f = 100kHz$		25	pF
t_d	$V_{CC} = 30V, V_{BE(off)} = 0.5V, I_C = 150mA, I_{B1} = 15mA$		10	ns
t_r	$V_{CC} = 30V, V_{BE(off)} = 0.5V, I_C = 150mA, I_{B1} = 15mA$		25	ns
t_s	$V_{CC} = 30V, I_C = 150mA, I_{B1} = I_{B2} = 15mA$		225	ns
t_f	$V_{CC} = 30V, I_C = 150mA, I_{B1} = I_{B2} = 15mA$		60	ns

JEDEC TO-46 - MECHANICAL OUTLINE



All Dimensions in Inches (mm).