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2N4208
2N4209

PNP SILICON TRANSISTOR

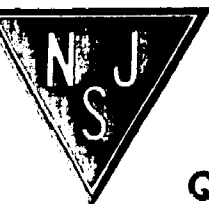
JEDEC TO-18 CASE

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

	SYMBOL	2N4208	2N4209	UNITS
Collector-Base Voltage	V_{CBO}	12	15	V
Collector-Emitter Voltage	V_{CEO}	12	15	V
Emitter-Base Voltage	V_{EBO}	4.5		V
Collector Current	I_C	200		mA
Power Dissipation	P_D	0.5		W
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	1.2		W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +200		$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	350		$^\circ\text{C/W}$
Thermal Resistance	Θ_{JC}	146		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	2N4208		2N4209		UNITS
		MIN	MAX	MIN	MAX	
I_{CES}	$V_{CE}=6.0\text{V}$		10			nA
I_{CES}	$V_{CE}=6.0\text{V}, T_A=125^\circ\text{C}$		5.0			μA
I_{CES}	$V_{CE}=8.0\text{V}$				10	nA
I_{CES}	$V_{CE}=8.0\text{V}, T_A=125^\circ\text{C}$				5.0	μA
BV_{CBO}	$I_C=100\mu\text{A}$	12		15		V
BV_{CES}	$I_C=100\mu\text{A}$	12		15		V
BV_{CEO}	$I_C=3.0\text{mA}$	12		15		V
BV_{EBO}	$I_E=100\mu\text{A}$	4.5		4.5		V
$V_{CE(SAT)}$	$I_C=1.0\text{mA}, I_B=100\mu\text{A}$		0.13		0.15	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.15		0.18	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.50		0.60	V
$V_{BE(SAT)}$	$I_C=1.0\text{mA}, I_B=100\mu\text{A}$		0.80		0.80	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	0.78	0.95	0.78	0.95	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.5		1.5	V
h_{FE}	$V_{CE}=0.5\text{V}, I_C=1.0\text{mA}$	15		35		
h_{FE}	$V_{CE}=0.3\text{V}, I_C=10\text{mA}$	30	120	50	120	
h_{FE}	$V_{CE}=0.3\text{V}, I_C=10\text{mA}, T_A=-55^\circ\text{C}$	12		20		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=50\text{mA}$	30		40		



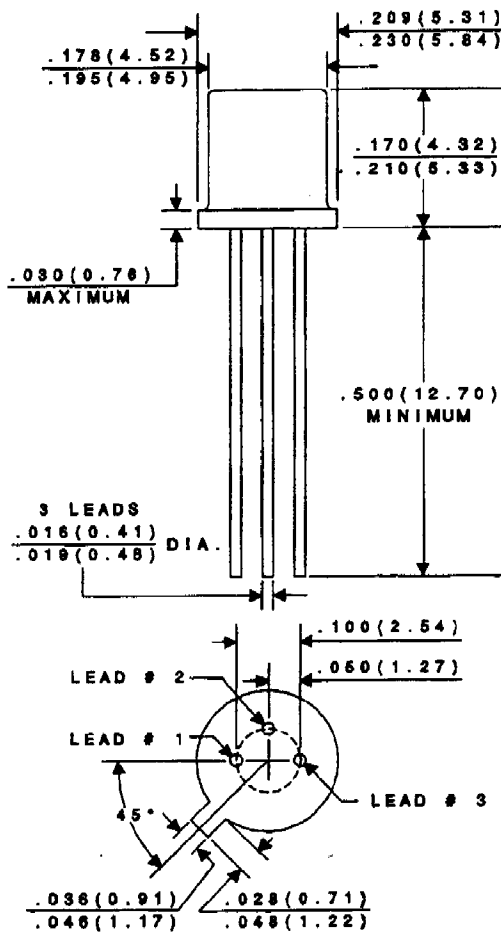
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Quality Semi-Conductors

ELECTRICAL CHARACTERISTICS (Continued)

SYMBOL	TEST CONDITIONS	2N4208		2N4209		UNITS
		MIN	MAX	MIN	MAX	
f_T	$V_{CE}=10V, I_C=10mA, f=100MHz$	700		850		MHz
C_{ob}	$V_{CB}=5.0V, I_E=0$		3.0		3.0	pF
C_{ib}	$V_{BE}=0.5V, I_C=0$		3.5		3.5	pF
t_{on}	$V_{CC}=1.5V, I_C=10mA, I_{B1}=1.0mA$		15		15	ns
t_{off}	$V_{CC}=1.5V, I_C=10mA, I_{B1}=I_{B2}=1.0mA$		20		20	ns
τ_s	$V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=10mA$		20		20	ns

JEDEC TO-18 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).