

New Jersey Semi-Conductor Products, Inc.

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

2N3798
2N3799

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

PNP SILICON TRANSISTOR

JEDEC TO-18 CASE

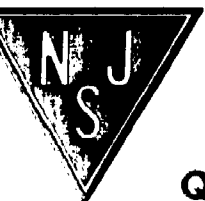
2N3798, 2N3799 types are Silicon PNP Epitaxial Planar Transistors designed for low noise amplifier applications.

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

	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	60	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	50	mA
Power Dissipation	P_D	360	mW
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}	0.49	$^\circ\text{C}/\text{mW}$
Thermal Resistance	θ_{JC}	150	$^\circ\text{C}/\text{W}$

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

SYMBOL	TEST CONDITIONS	2N3798		2N3799		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB} = 50\text{V}$		10		10	nA
I_{CBO}	$V_{CB} = 50\text{V}, T_A = 150^\circ\text{C}$		10		10	μA
I_{EBO}	$V_{BE} = 4.0\text{V}$		20		20	nA
BV_{CB0}	$I_C = 10\mu\text{A}$	60		60		V
BV_{CEO}	$I_C = 10\text{mA}$	60		60		V
BV_{EBO}	$I_E = 10\mu\text{A}$	5.0		5.0		V
$V_{CE(SAT)}$	$I_C = 100\mu\text{A}, I_B = 10\mu\text{A}$		0.20		0.20	V
$V_{CE(SAT)}$	$I_C = 1.0\text{mA}, I_B = 100\mu\text{A}$		0.25		0.25	V
$V_{BE(SAT)}$	$I_C = 100\mu\text{A}, I_B = 10\mu\text{A}$		0.70		0.70	V
$V_{BE(SAT)}$	$I_C = 1.0\text{mA}, I_B = 100\mu\text{A}$		0.80		0.80	V
$V_{BE(ON)}$	$V_{CE} = 5.0\text{V}, I_C = 100\mu\text{A}$		0.70		0.70	V
h_{FE}	$V_{CE} = 5.0\text{V}, I_C = 1.0\mu\text{A}$			75		
h_{FE}	$V_{CE} = 5.0\text{V}, I_C = 10\mu\text{A}$	100		225		
h_{FE}	$V_{CE} = 5.0\text{V}, I_C = 100\mu\text{A}$	150		300		
h_{FE}	$V_{CE} = 5.0\text{V}, I_C = 100\mu\text{A}, T_A = -55^\circ\text{C}$	75		150		



NJ Semi-Conductors reserves the right to change test conditions, parameters limits and package dimensions without notice information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

Quality Semi-Conductors

ELECTRICAL CHARACTERISTICS (Continued)

SYMBOL	TEST CONDITIONS	2N3798			2N3799			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
h_{FE}	$V_{CE}=5.0V, I_C=500\mu A$	150		450	300		900	
h_{FE}	$V_{CE}=5.0V, I_C=1.0mA$	150			300			
h_{FE}	$V_{CE}=5.0V, I_C=10mA$	125			250			
f_T	$V_{CE}=5.0V, I_C=500\mu A, f=30MHz$	30			30			MHz
* f_T	$V_{CE}=5.0V, I_C=1.0mA, f=100MHz$		80			80		MHz
* C_{ob}	$V_{CB}=5.0V, I_E=0, f=100kHz$			5.0			5.0	pF
* C_{ib}	$V_{BE}=0.5V, I_C=0, f=100kHz$			15			15	pF
h_{ie}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	3.0		15	10		40	k Ω
h_{re}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$			25			25	X 10 ⁻⁴
h_{fe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	150		600	300		900	
h_{oe}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$	5.0		60	5.0		60	μmho
NF	$V_{CE}=10V, I_C=100\mu A, R_G=3.0k\Omega$ $f=100Hz, B.W.=20Hz$		4.0	7.0		2.5	4.0	dB
NF	$V_{CE}=10V, I_C=100\mu A, R_G=3.0k\Omega$ $f=1kHz, B.W.=200Hz$		1.5	3.0		0.8	1.5	dB
NF	$V_{CE}=10V, I_C=100\mu A, R_G=3.0k\Omega$ $f=10kHz, B.W.=2kHz$		2.5	2.5		1.5	1.5	dB
NF	$V_{CE}=10V, I_C=100\mu A, R_G=3.0k\Omega$ Broadband B.W. = 10Hz to 15.7kHz			3.5			2.5	dB