

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N3798
2N3799

PNP SILICON TRANSISTOR

JEDEC TO-18 CASE

DESCRIPTION

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

MAXIMUM RATINGS (T_A = 25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V _{CBO}	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°C)	P _D	1.2	W
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +200	°C
Thermal Resistance	θ _{JA}	0.49	°C/mW
Thermal Resistance	θ _{JC}	150	°C/W

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N3798		2N3799		UNITS
		MIN	MAX	MIN	MAX	
I _{CBO}	V _{CB} = 50V		10		10	nA
I _{CBO}	V _{CB} = 50V, T _A = 150°C		10		10	μA
I _{EBO}	V _{BE} = 4.0V		20		20	nA
BV _{CBO}	I _C = 10μA	60		60		V
BV _{CEO}	I _C = 10mA	60		60		V
BV _{EBO}	I _E = 10μA	5.0		5.0		V
V _{CE(SAT)}	I _C = 100μA, I _B = 10μA		0.20		0.20	V
V _{CE(SAT)}	I _C = 1.0mA, I _B = 100μA		0.25		0.25	V
V _{BE(SAT)}	I _C = 100μA, I _B = 10μA		0.70		0.70	V
V _{BE(SAT)}	I _C = 1.0mA, I _B = 100μA		0.80		0.80	V
V _{BE(ON)}	V _{CE} = 5.0V, I _C = 100μA		0.70		0.70	V
h _{FE}	V _{CE} = 5.0V, I _C = 1.0mA		-	75		
h _{FE}	V _{CE} = 5.0V, I _C = 10μA	100		225		
h _{FE}	V _{CE} = 5.0V, I _C = 100μA	150		300		
h _{FE}	V _{CE} = 5.0V, I _C = 100μA, T _A = -55°C	75		150		

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	$k\Omega$
h_{re}	$V_{CE}=10V, I_C=1.0mA, f=1.0kHz$			25			25	$\times 10^{-4}$
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

* Limits Not in Accordance with JEDEC Registered Values.

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