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2N3798
2N3799

PNP SILICON TRANSISTOR

JEDEC TO-18 CASE

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

MAXIMUM RATINGS ($T_A = 25^oC$)

	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 ($T_C = 25^oC$)	P_D	1.2	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +200	^oC
Thermal Resistance	θ_{JA}	0.49	$^oC/mW$
Thermal Resistance	θ_{JC}	150	$^oC/W$

ELECTRICAL CHARACTERISTICS ($T_A = 25^oC$ unless otherwise noted)

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

ELECTRICAL CHARACTERISTICS (Continued)

SYMBOL	TEST CONDITIONS	2N3798 MIN	2N3798 TYP	2N3798 MAX	2N3799 MIN	2N3799 TYP	2N3799 MAX	UNITS
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	kΩ
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