2N3798   2N3798A
2N3799   2N3799A

**SILICON
PNP TRANSISTORS**

Central
Semiconductor Corp.

DESCRIPTION:
The CENTRAL SEMICONDUCTOR 2N3798, 2N3799 series devices are silicon PNP epitaxial planar transistors designed for low noise amplifier applications.

MARKING: FULL PART NUMBER

TO-18 CASE

MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)

	SYMBOL	2N3798 2N3799	2N3798A 2N3799A	UNITS
Collector-Base Voltage	V_{CBO}	60	90	V
Collector-Emitter Voltage	V_{CEO}	60	90	V
Emitter-Base Voltage	V_{EBO}	5.0		V
Continuous 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	MIN	MAX	UNITS
I_{CBO}	V_{CB}=50V		10	nA
I_{CBO}	V_{CB}=50V, T_A=150°C		10	μA
I_{EBO}	V_{EB}=4.0V		20	nA
BV_{CBO}	I_C=10μA (2N3798, 2N3799)	60		V
BV_{CBO}	I_C=10μA (2N3798A, 2N3799A)	90		V
BV_{CEO}	I_C=10mA (2N3798, 2N3799)	60		V
BV_{CEO}	I_C=10mA (2N3798A, 2N3799A)	90		V
BV_{EBO}	I_E=10μA	5.0		V
$V_{CE(SAT)}$	I_C=100μA, I_B=10μA		0.20	V
$V_{CE(SAT)}$	I_C=1.0mA, I_B=100μA		0.25	V
$V_{BE(SAT)}$	I_C=100μA, I_B=10μA		0.70	V
$V_{BE(SAT)}$	I_C=1.0mA, I_B=100μA		0.80	V
$V_{BE(ON)}$	V_{CE}=5.0V, I_C=100μA		0.70	V

		2N3798 2N3798A		2N3799 2N3799A	
		MIN	MAX	MIN	MAX
h_{FE}	V_{CE}=5.0V, I_C=1.0μA	-	-	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	-
h_{FE}	V_{CE}=5.0V, I_C=500μA	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	-

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

SYMBOL	TEST CONDITIONS	2N3798 2N3798A			2N3799 2N3799A			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
f_T	V_{CE}=5.0V, I_C=500µA, 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_{EB}=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	x10^{-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	µS
NF	V_{CE}=10V, I_C=100µA, R_G=3.0kΩ, f=100Hz, BW=20Hz	-	4.0	7.0	-	2.5	4.0	dB
NF	V_{CE}=10V, I_C=100µA, R_G=3.0kΩ, f=1.0kHz, BW=200Hz	-	1.5	3.0	-	0.8	1.5	dB
NF	V_{CE}=10V, I_C=100µA, R_G=3.0kΩ, f=10kHz, BW=2.0kHz	-	1.0	2.5	-	0.8	1.5	dB
NF	V_{CE}=10V, I_C=100µA, R_G=3.0kΩ, Broadband BW=10Hz to 15.7kHz	-	2.5	3.5	-	1.5	2.5	dB

* Limits not in accordance with JEDEC registered values.

TO-18 CASE - MECHANICAL OUTLINE
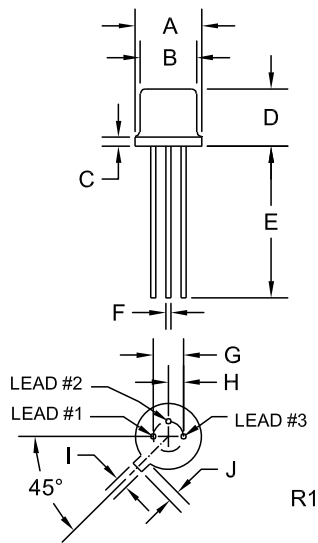
DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A (DIA)	0.209	0.230	5.31	5.84
B (DIA)	0.178	0.195	4.52	4.95
C	-	0.030	-	0.76
D	0.170	0.210	4.32	5.33
E	0.500	-	12.70	-
F (DIA)	0.016	0.019	0.41	0.48
G (DIA)	0.100		2.54	
H	0.050		1.27	
I	0.036	0.046	0.91	1.17
J	0.028	0.048	0.71	1.22

TO-18 (REV: R1)

LEAD CODE:
1) Emitter
2) Base
3) Collector

MARKING:
FULL PART NUMBER

R1 (22-September 2014)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES

Central
Semiconductor Corp.™

PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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