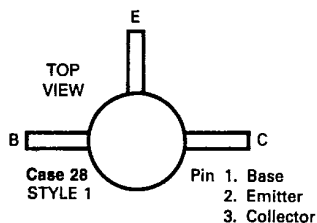


# MMT3798,99 — PNP

## LOW CURRENT AMPLIFIER TRANSISTOR



- designed for low-level, low-noise amplifier applications.

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	60	Vdc
Collector-Base Voltage	$V_{CB}$	60	Vdc
Emitter-Base Voltage	$V_{EB}$	3.0	Vdc
Collector Current — Continuous Peak	$I_C$	50 100	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	250 2.0	mW mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	0.50	$^\circ\text{C}/\text{mW}$

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

Parameter	Test Conditions	Min	Typ	Max	Unit
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### OFF CHARACTERISTICS

$BV_{CEO}$	$I_C = 10 \text{ mAdc}, I_B = 0$	60	—	—	Vdc
$BV_{CBO}$	$I_C = 10 \mu\text{Adc}, I_E = 0$	60	—	—	Vdc
$I_{CBO}$	$V_{CB} = 50 \text{ Vdc}, I_E = 0$	—	—	50	nAdc
$I_{EBO}$	$V_{BE} = 3.0 \text{ Vdc}, I_C = 0$	—	—	50	nAdc

### ON CHARACTERISTICS

$h_{FE}$	$I_C = 10 \mu\text{Adc}, V_{CE} = 5.0 \text{ Vdc}$	MMT3798	75	—	—	—
		MMT3799	150	—	—	—
	$I_C = 100 \mu\text{Adc}, V_{CE} = 5.0 \text{ Vdc}$	MMT3798	150	—	450	—
		MMT3799	300	—	900	—
	$I_C = 1.0 \text{ mAdc}, V_{CE} = 5.0 \text{ Vdc}$	MMT3798	150	—	—	—
		MMT3799	300	—	—	—
$I_C = 10 \text{ mAdc}, V_{CE} = 5.0 \text{ Vdc}$	MMT3798	125	—	—	—	
	MMT3799	250	—	—	—	
$V_{CE(sat)}$	$I_C = 1.0 \text{ mAdc}, I_B = 100 \mu\text{Adc}$	—	—	0.25	Vdc	
$V_{BE(sat)}$	$I_C = 1.0 \text{ mAdc}, I_B = 100 \mu\text{Adc}$	—	—	0.8	Vdc	

continued

## SMALL-SIGNAL CHARACTERISTICS

$f_T$	$I_C = 500 \mu\text{A dc}, V_{CE} = 5.0 \text{ V dc},$ $f = 20 \text{ MHz}$	MMT3798	40	120	—	MHz
		MMT3799	40	150	—	
$C_{ob}$	$V_{CB} = 5.0 \text{ V dc}, I_E = 0, f = 100 \text{ kHz}$		—	2.0	4.0	pF
$C_b$	$V_{BE} = 0.5 \text{ V dc}, I_C = 0, f = 100 \text{ kHz}$		—	—	12	pF
NF	$I_C = 100 \mu\text{A dc}, V_{CE} = 10 \text{ V dc},$ $R_S = 3.0 \text{ k}\Omega, f = 1.0 \text{ kHz}$	MMT3798	—	1.5	—	dB
		MMT3799	—	0.8	—	
	$I_C = 100 \mu\text{A dc}, V_{CE} = 10 \text{ V dc},$ $R_S = 3.0 \text{ k}\Omega, f = 10 \text{ kHz}$	MMT3798	—	1.0	—	
		MMT3799	—	0.8	—	
	$I_C = 100 \mu\text{A dc}, V_{CE} = 10 \text{ V dc},$ $R_S = 3.0 \text{ k}\Omega, \text{BW} = 10 \text{ Hz to } 15.7 \text{ kHz}$	MMT3798	—	2.5	3.5	
		MMT3799	—	1.5	2.5	