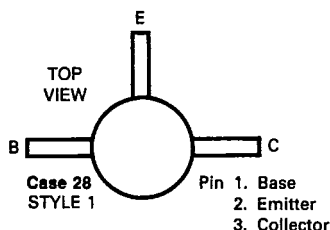


MMT2060 — NPN

RF AMPLIFIER TRANSISTOR



- designed for high-gain, low noise amplifier, oscillator and mixer applications.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	14	Vdc
Emitter-Base Voltage	V_{EB}	4.0	Vdc
Collector Current	I_C	50	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°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	Max	Unit
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OFF CHARACTERISTICS

BV_{CEO}	$I_C = 1.0 \text{ mAdc}, I_B = 0$	14	—	Vdc
BV_{EBO}	$I_E = 10 \mu\text{Adc}, I_C = 0$	4.0	—	Vdc
I_{CBO}	$V_{CB} = 10 \text{ Vdc}, I_E = 0$	—	50	nAdc

ON CHARACTERISTICS

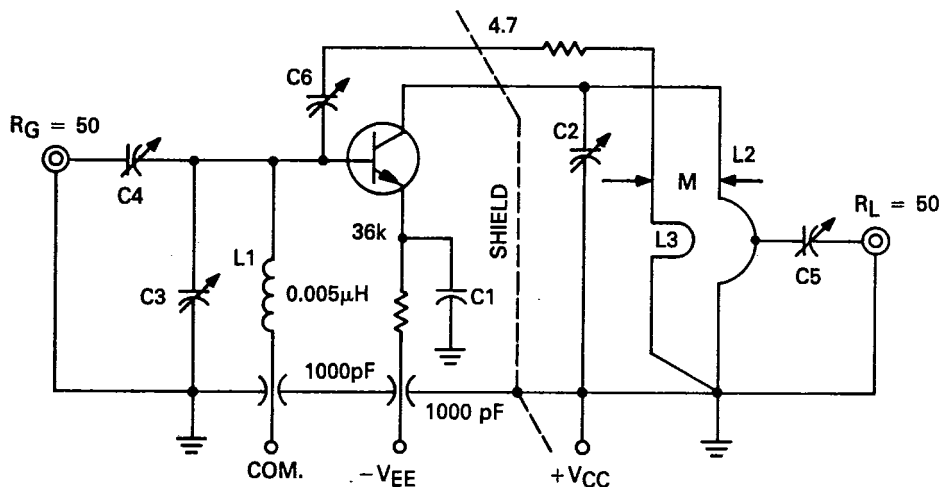
h_{FE}	$I_C = 5.0 \text{ mAdc}, V_{CE} = 5.0 \text{ Vdc}$	20	—	—
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DYNAMIC CHARACTERISTICS

f_T	$I_C = 20 \text{ mAdc}$, $V_{CE} = 10 \text{ Vdc}$, $f = 100 \text{ MHz}$	1000	—	MHz
C_{cb}	$V_{CB} = 10 \text{ Vdc}$, $I_E = 0$, $f = 1.0 \text{ MHz}$	—	1.0	pF
NF	$I_E = 1.5 \text{ mAdc}$, $V_{CE} = 10 \text{ Vdc}$, $R_S = 50 \text{ ohms}$, $f = 450 \text{ MHz}$	—	3.5	dB

FUNCTIONAL TEST

G_{ps}	$I_C = 1.5 \text{ mAdc}$, $V_{CE} = 10 \text{ Vdc}$, $f = 450 \text{ MHz}$ $R_g = 50 \Omega$	12.5	—	dB
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FIGURE 1 — POWER GAIN AND NOISE FIGURE TEST CIRCUIT ($f = 450 \text{ MHz}$)NOTE: BANDWIDTH $\geq 20 \text{ MHz}$ (SET C5)C1 — UNCAPSULATED DISK CERAMIC CAPACITOR $> 500 \text{ pF}$ C2, C3, C4, C5, C6 = $0.8 - 10 \text{ pF}$ L2 IT #22 TINNED WIRE $\frac{1}{2}''$ DIA. TAP $\frac{3}{4}$ UP FROM GROUNDL3 IT #22 TINNED WIRE $\frac{5}{16}''$ DIA.