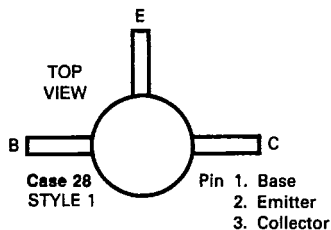


# MMT2060 — NPN

## 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 $25^\circ\text{C}$	$P_D$	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	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

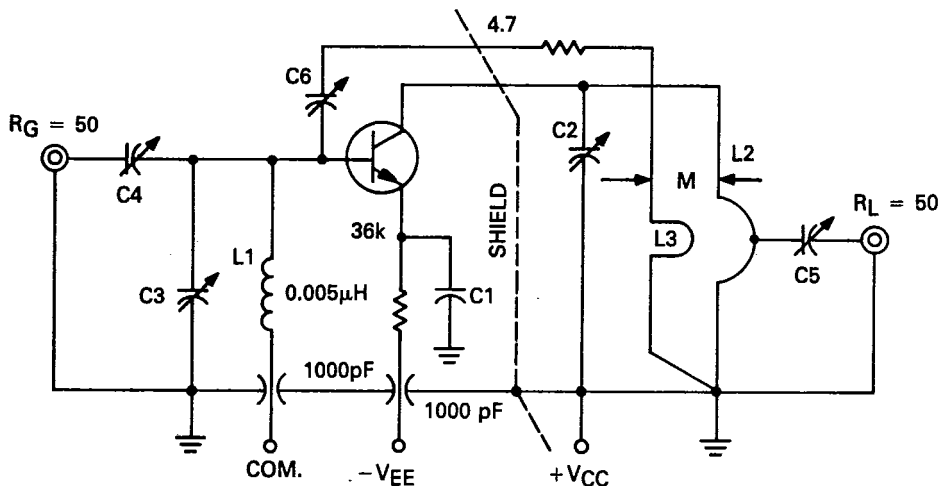
$h_{FE}$	$I_C = 5.0 \text{ mAdc}, V_{CE} = 5.0 \text{ Vdc}$	20	—	—
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## DYNAMIC CHARACTERISTICS

$f_T$	$I_C = 20 \text{ mAdc}$ , $V_{CE} = 10 \text{ Vdc}$ , $f = 100 \text{ MHz}$	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

$G_{pe}$	$I_C = 1.5 \text{ mAdc}$ , $V_{CE} = 10 \text{ Vdc}$ , $f = 450 \text{ MHz}$ $R_p = 50 \Omega$	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 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.