

NPN HF/VHF T

MMBTH10M3T5G

The MMBTH10M3T5G device is a spin-off of our popular SOT-23 three-leaded device. It is designed for general purpose VHF/UHF applications and is housed in the SOT-723 surface mount package. This device is ideal for low-power surface mount applications where board space is at a premium.

Features

- Reduces Board Space
- This is a Halide-Free Device
- This is a Pb-Free Device

MAXIMUM RATINGS

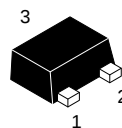
	Rating	Symbol	Value	Unit
Collector-Emitter Voltage		V_{CEO}	25	Vdc
Collector-Base Voltage		V_{CBO}	30	Vdc
Emitter-Base Voltage		V_{EBO}	3.0	Vdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	265	mW
		2.1	mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	470	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate, (Note 2) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	640	mW
		5.1	mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	195	$^\circ\text{C/W}$
Junction and Storage Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. FR-5 = $1.0 \times 0.75 \times 0.062$ in.
2. Alumina = $0.4 \times 0.3 \times 0.024$ in. 99.5% alumina.



AJ = Specific Device Code
M = Date Code

MARKING DIAGRAM



MMBTH10M3T5G

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

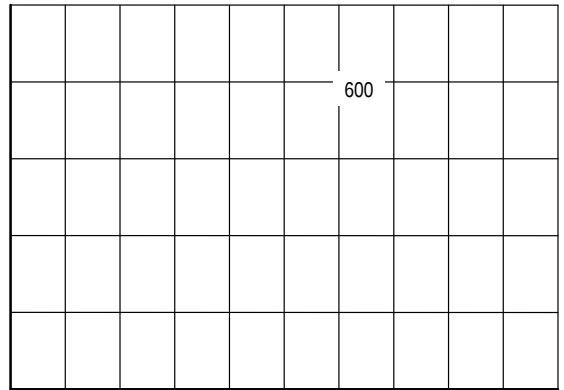
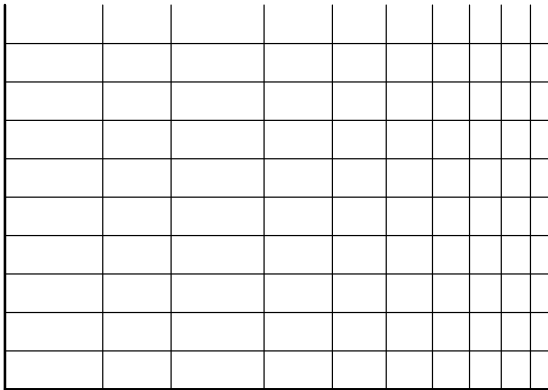
Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector–Emitter Breakdown Voltage ($I_C = 1.0\text{ mA}$, $I_B = 0$)	$V_{(BR)CEO}$	25	–	–	Vdc
Collector–Base Breakdown Voltage ($I_C = 100\text{ }\mu\text{A}$, $I_E = 0$)	$V_{(BR)CBO}$	30	–	–	Vdc
Emitter–Base Breakdown Voltage ($I_E = 10\text{ }\mu\text{A}$, $I_C = 0$)	$V_{(BR)EBO}$				

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TYPICAL CHARACTERISTICS



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TYPICAL CHARACTERISTICS

4.0
3.0
1.0
0
100

f, FREQUENCY (MHz)

Figure 5. Rectangular Form

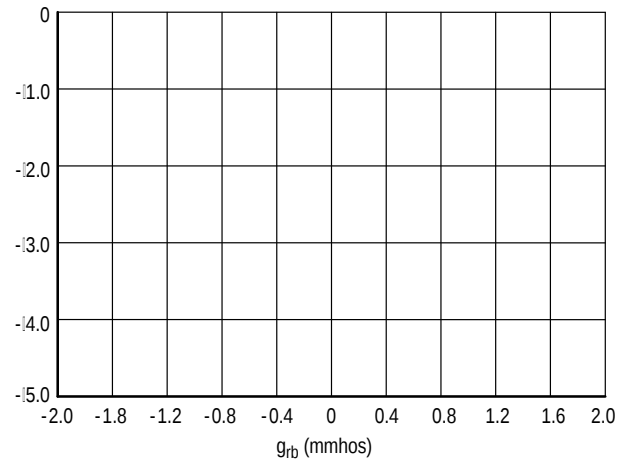
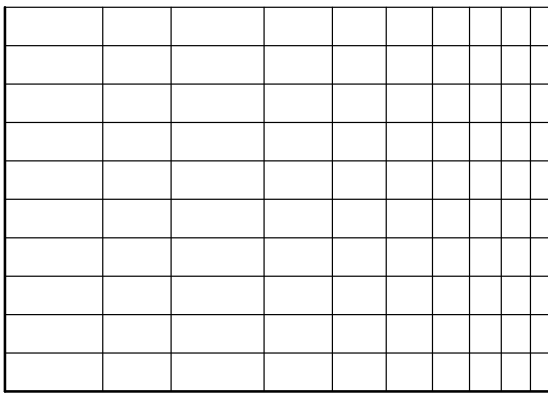


Figure 6. Polar Form



f, FREQUENCY (MHz)

Figure 7. Rectangular Form

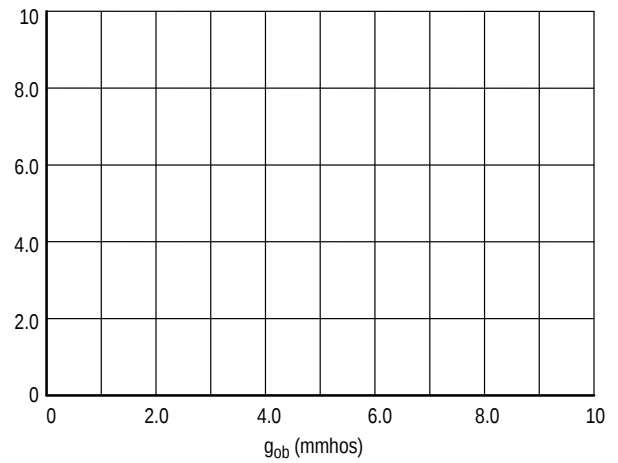
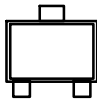


Figure 8. Polar Form

SOT-723 1.20x0.80x0.50, 0.40P

GENERIC
MARKING



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