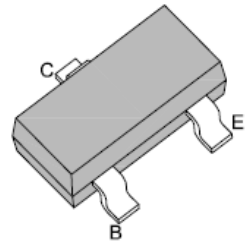


SMD VHF/UHF Transistor (NPN)

Features

- NPN Silicon Epitaxial Planar Transistor
- RoHS compliance



Mechanical Data

SOT-23



Case:	SOT-23, Plastic Package
Terminals:	Solderable per MIL-STD-202G, Method 208
Weight:	0.008 gram

Maximum Ratings ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	MMBTH10	Unit
	Marking Code	3E	
V_{CB0}	Collector-Base Voltage	30	V
V_{CE0}	Collector-Emitter Voltage	25	V
V_{EB0}	Emitter-Base Voltage	3.0	V
*P_{tot}	Power Dissipation FR-5 Board, $T_a=25^{\circ}C$	225	mW
	Derate above $25^{\circ}C$	1.8	mW/ $^{\circ}C$
*R_{θJA}	Thermal Resistance from Junction to Ambient in Free Air	556	$^{\circ}C/mW$
**P_{tot}	Power Dissipation Alumina Substrate, $T_a=25^{\circ}C$	300	mW
	Derate above $25^{\circ}C$	2.4	mW/ $^{\circ}C$
**R_{θJA}	Thermal Resistance from Junction to Ambient in Free Air	417	$^{\circ}C/mW$
T_J, T_{STG}	Junction and Storage Temperature Range	150	$^{\circ}C$

SMD VHF/UHF Transistor (NPN)

MMBTH10

Note: * FR-5 Board=25.4x19.05x1.58mm (1.0x0.75x0.062")

**Alumina Substrate=10.16x7.62x0.61mm (0.4x0.3x0.024"), 99.5% alumina

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

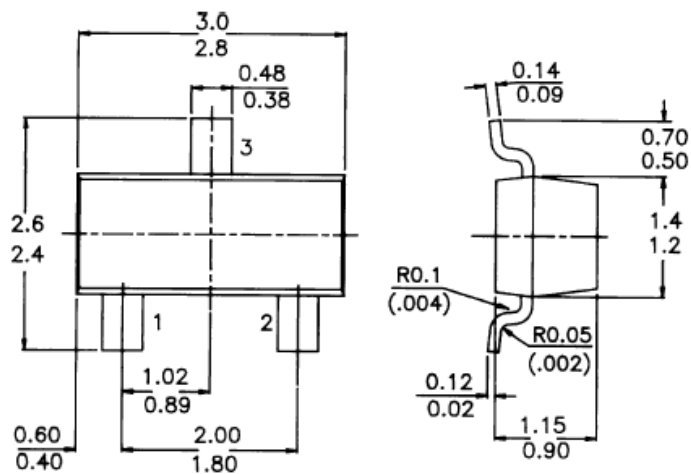
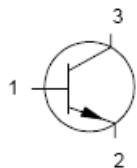
Symbol	Description	MMBTH10		Unit	Conditions
		Min.	Max.		
h_{FE}	D.C. Current Gain	60	-		$V_{CE}=10V$, $I_C=4mA$
V_{CBO}	Collector-Base Voltage	30	-	V	$I_C=100\mu A$, $I_E=0$
V_{CEO}	Collector-Emitter Voltage	25	-	V	$I_C=1mA$, $I_B=0$
V_{EBO}	Emitter-Base Voltage	3	-	V	$I_E=10\mu A$, $I_C=0$
V_{CE(sat)}	Collector-Emitter Saturation Voltage	-	0.50	V	$I_C=4mA$, $I_B=0.4mA$
V_{BE(on)}	Base-Emitter on Voltage	-	0.95	V	$V_{CE}=10V$, $I_C=4mA$
I_{CBO}	Collector-Emitter Cut-off Current	-	100	nA	$V_{CB}=25V$, $I_E=0$
I_{EBO}	Emitter Cut-off Current	-	100	nA	$V_{EB}=2V$, $I_C=0$

Dimensions in mm

SOT-23

Pin configuration

1 = BASE
2 = EMITTER
3 = COLLECTOR



SMD VHF/UHF Transistor (NPN)

MMBTH10

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