

MMBTH24**NPN EPITAXIAL SILICON TRANSISTOR****VHF MIXER TRANSISTOR**

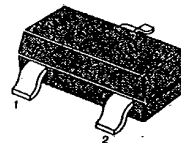
T-31-19

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	40	V
Collector-Emitter Voltage	V_{CE0}	30	V
Emitter-Base Voltage	V_{EB0}	4	V
Collector Current	I_C	100	mA
Collector Dissipation	P_C	350	mW
Storage Temperature	T_{stg}	150	$^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{th(j-a)}$	357	$^\circ\text{C/W}$

* Refer to MPSH24 for graphs

SOT-23



1. Base 2. Emitter 3. Collector

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C = 100\mu\text{A}$, $I_E = 0$	40			V
Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C = 1\text{mA}$, $I_B = 0$	30			V
Emitter-Base Breakdown Voltage	BV_{EB0}	$I_E = 10\mu\text{A}$, $I_C = 0$	4			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 15\text{V}$, $I_E = 0$			50	nA
DC Current Gain	h_{FE}	$V_{CE} = 10\text{V}$, $I_C = 8\text{mA}$	30			
* Current Gain-Bandwidth Product	f_T	$V_{CE} = 10\text{V}$, $I_C = 8\text{mA}$ $f = 100\text{MHz}$	400	620		MHz
Collector-Base Capacitance	C_{cb}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$		0.25	0.36	pF
Conversion Gain (213MHz to 45MHz)	C_G	$I_C = 8\text{mA}$, $V_{CC} = 20\text{V}$ Oscillator Injection = 150mV	19	24		dB
(60MHz to 45MHz)			24	29		dB

* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

Marking

