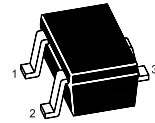


MMBTSC4226W

NPN Silicon Epitaxial Planar Transistor



For VHF, UHF low noise amplifier

1.Base 2.Emitter 3.Collector
SOT-323 Plastic Package
Marking Code: J9

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	20	V
Collector Emitter Voltage	V_{CEO}	12	V
Emitter Base Voltage	V_{EBO}	3	V
Collector Current	I_C	100	mA
Power Dissipation	P_{tot}	150	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

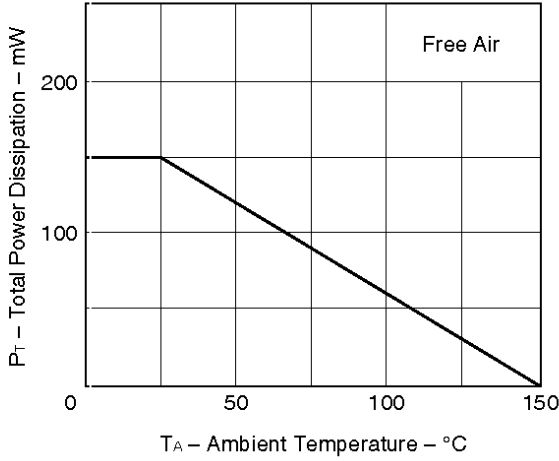
Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit	
DC Current Gain at $V_{CE} = 3\text{ V}$, $I_C = 7\text{ mA}$	Current Gain Group Q	h_{FE}	40	80	-
	R	h_{FE}	70	140	-
	S	h_{FE}	125	250	-
Collector Base Cutoff Current at $V_{CB} = 10\text{ V}$	I_{CBO}	-	1	μA	
Emitter Base Cutoff Current at $V_{EB} = 1\text{ V}$	I_{EBO}	-	1	μA	
Collector Base Breakdown Voltage at $I_C = 10\ \mu\text{A}$	$V_{(BR)CBO}$	20	-	V	
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	12	-	V	
Emitter Base Breakdown Voltage at $I_E = 10\ \mu\text{A}$	$V_{(BR)EBO}$	3	-	V	
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 5\text{ mA}$	$V_{CE(sat)}$	-	0.5	V	
Transition Frequency at $V_{CE} = 3\text{ V}$, $I_C = 7\text{ mA}$	f_T	3	-	GHz	
Feed Back Capacitance at $V_{CB} = 3\text{ V}$, $f = 1\text{ MHz}$	C_{re}	-	1.5	pF	
Noise Figure at $V_{CE} = 3\text{ V}$, $I_C = 7\text{ mA}$, $f = 1\text{ GHz}$	NF	-	2.5	dB	

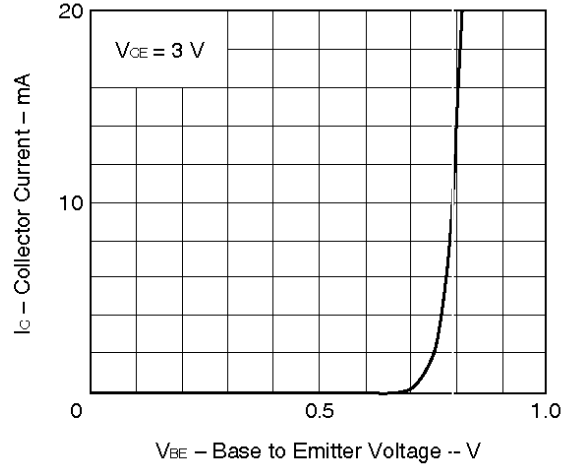
MMBTSC4226W

Typical Characteristics

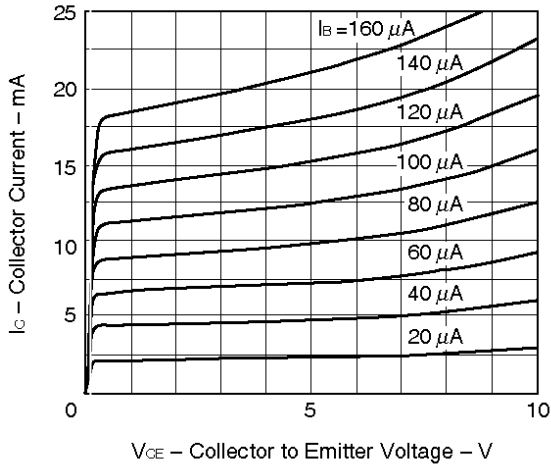
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



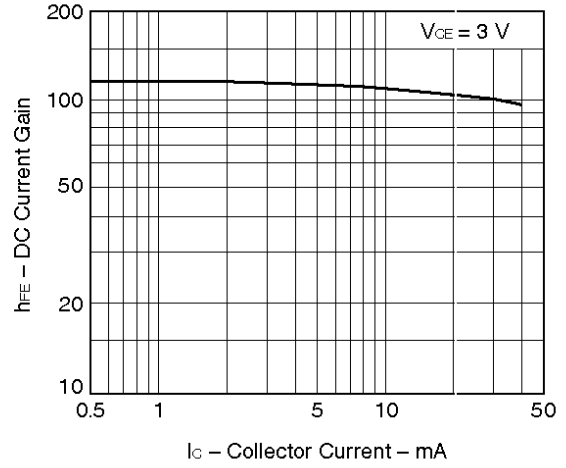
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



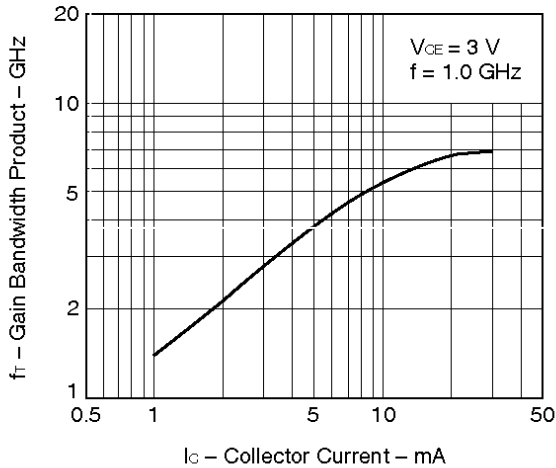
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



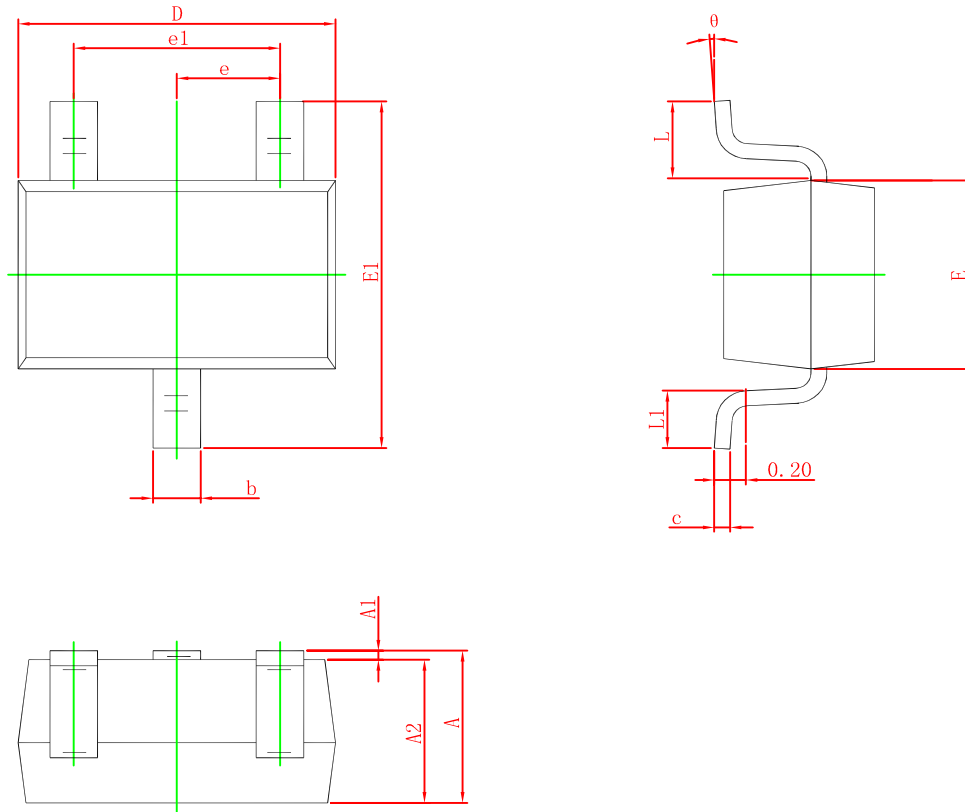
DC CURRENT GAIN vs. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT



SOT-323 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°