

FEATURE

- Complementary to MMBT3904M
- Small Package



SOT-723

1. BASE
2. EMITTER
3. COLLECTOR

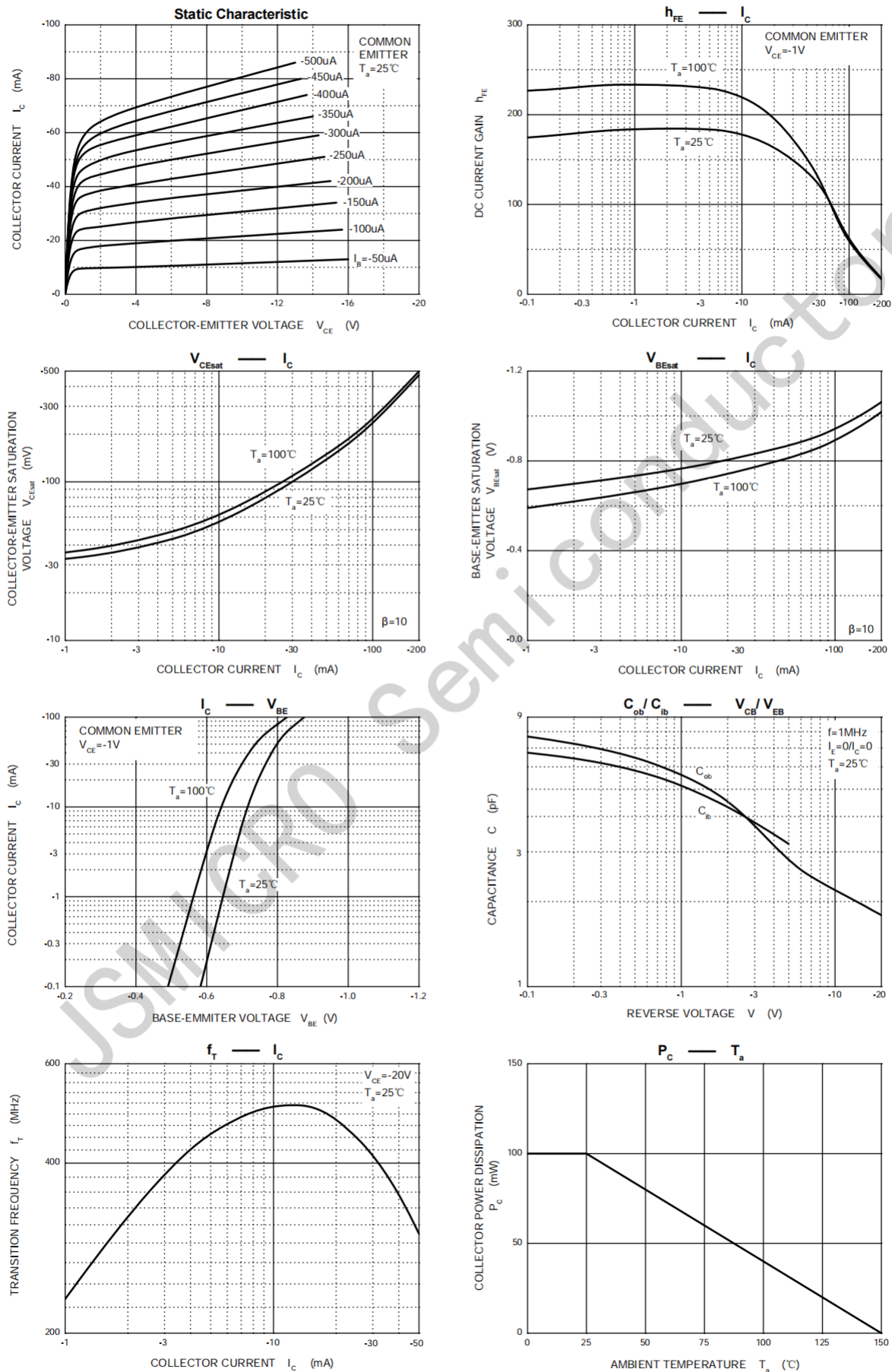
MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	-40	V
V _{CEO}	Collector-Emitter Voltage	-40	V
V _{EB0}	Emitter-Base Voltage	-5	V
I _c	Collector Current -Continuous	-0.2	A
P _c	Power Dissipation	100	mW
R _{θJA}	Thermal Resistance from Junction to Ambient	1250	°C/W
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

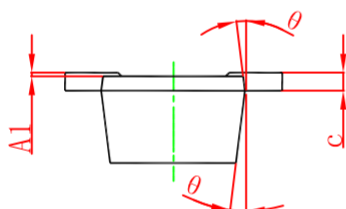
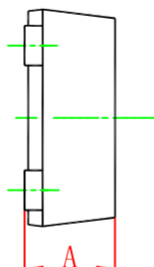
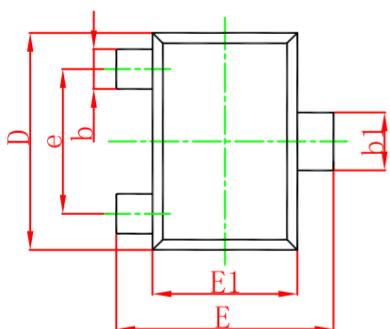
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _c =-10μA, I _E =0	-40			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _c =-1mA, I _B =0	-40			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-10μA, I _c =0	-5			V
Collector cut-off current	I _{CB0}	V _{CB} =-40V, I _E =0			-100	nA
Collector cut-off current	I _{CEX}	V _{CE} =-30V, V _{EB(off)} =-3V			-50	nA
Emitter cut-off current	I _{EBO}	V _{EB} =-5V, I _c =0			-100	nA
DC current gain	h _{FE(1)}	V _{CE} =-1V, I _c =-10mA	100		300	
	h _{FE(2)}	V _{CE} =-1V, I _c =-50mA	60			
	h _{FE(3)}	V _{CE} =-2V, I _c =-100mA	30			
Collector-emitter saturation voltage	V _{CE(sat)}	I _c =-50mA, I _B =-5mA			-0.3	V
Base-emitter saturation voltage	V _{BE(sat)}	I _c =-50mA, I _B =-5mA			-0.95	V
Transition frequency	f _T	V _{CE} =-20V, I _c =-10mA, f=100MHz	300			MHz
Delay time	t _d	V _{CC} =-3V, V _{BE(off)} =-0.5V, I _c =-10mA, I _{B1} =I _{B2} =-1mA			35	ns
Rise time	t _r				35	ns
Storage time	t _s	V _{CC} =-3V, I _c =-10mA, I _{B1} =I _{B2} =-1mA			225	ns
Fall time	t _f				75	ns

Typical Characteristics



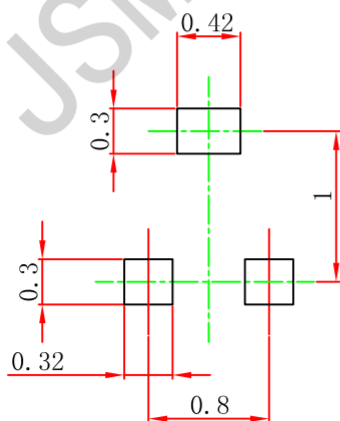
Package Information

SOT-723



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.430	0.500	0.017	0.020
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c	0.080	0.150	0.003	0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
θ	7° REF.		7° REF.	

SOT-723 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.