

TRANSISTOR (NPN)

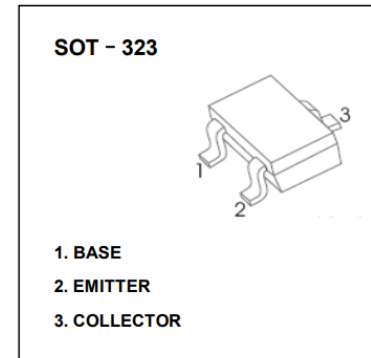
FEATURES

- VHF/UHF Transistor

MARKING: 3EM

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CB0}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	3	V
I_C	Collector Current	50	mA
P_C	Collector Power Dissipation	225	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	556	$^\circ\text{C}/\text{W}$
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^\circ\text{C}$



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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	3			V
Collector cut-off current	I_{CBO}	$V_{CB}=25\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=2\text{V}, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=10\text{V}, I_C=4\text{mA}$	60			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=4\text{mA}, I_B=0.4\text{mA}$			0.5	V
Base-emitter voltage	V_{BE}	$V_{CE}=10\text{V}, I_C=4\text{mA}$			0.95	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=4\text{mA}$ $f=100\text{MHz}$	650			MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			0.7	pF



CHINA BASE
INTERNATIONAL

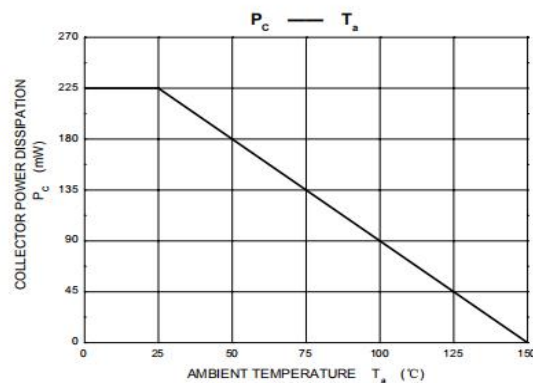
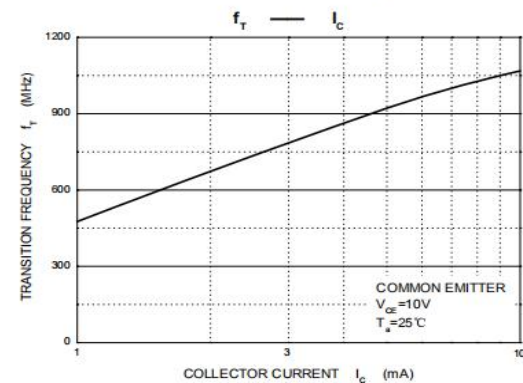
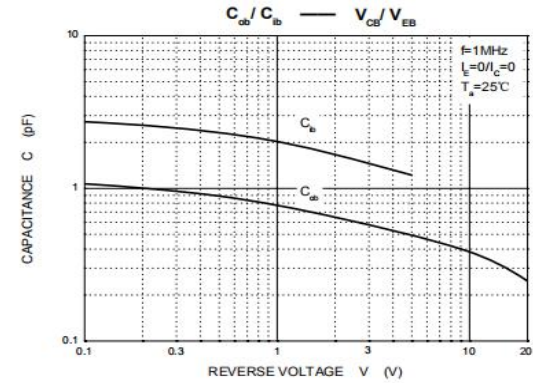
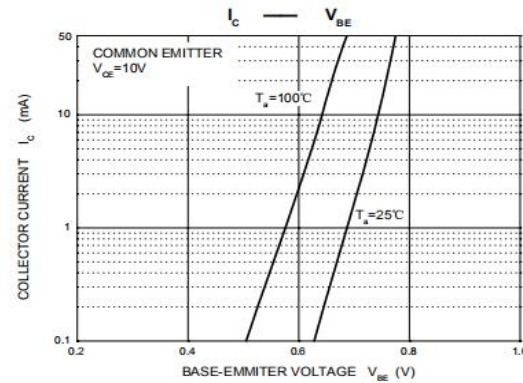
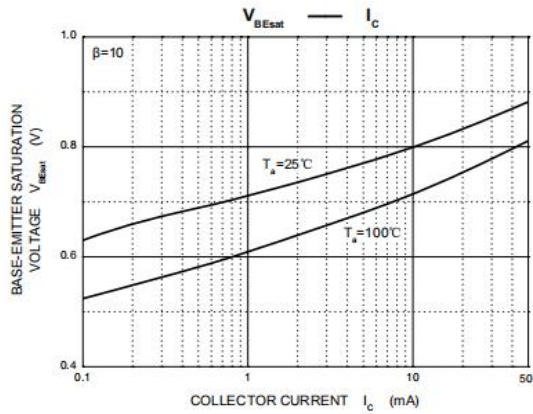
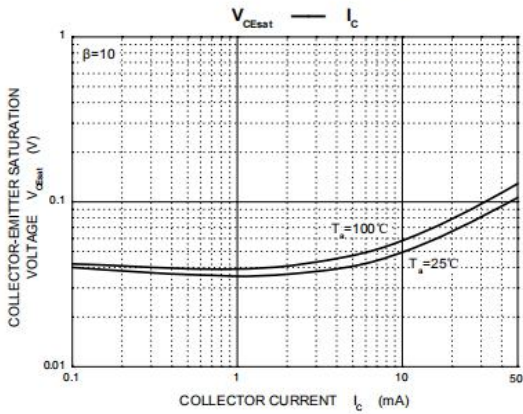
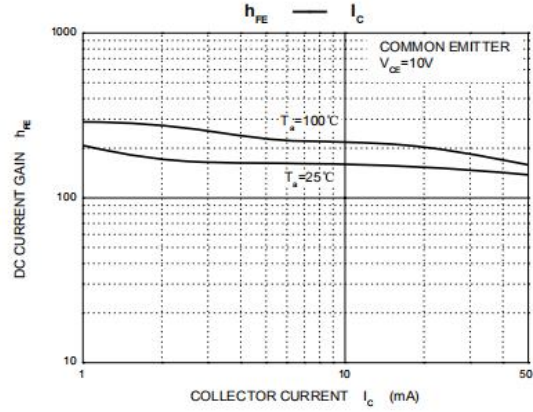
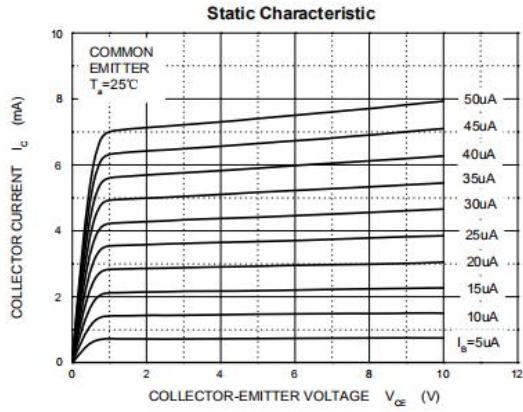
SOT-323



MMBTH10W

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Typical Characteristics

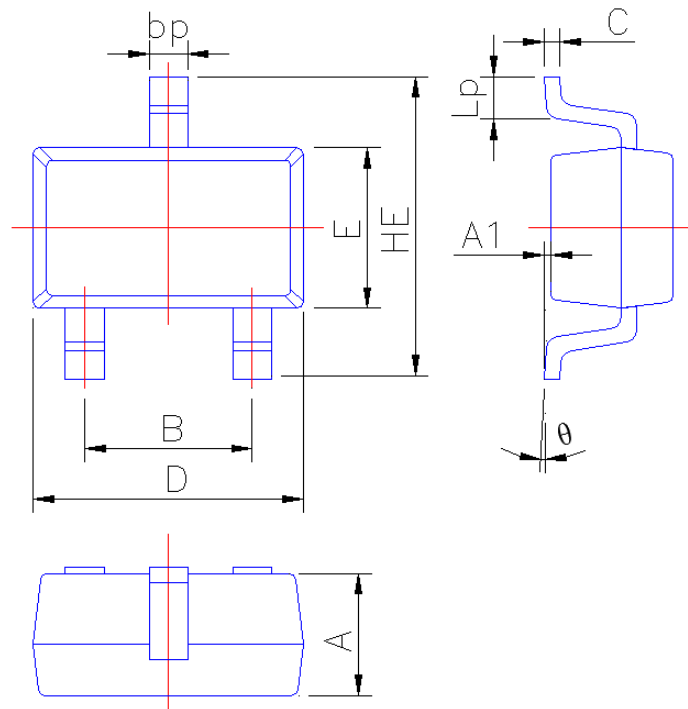




PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-323



Symbol	Dimension in Millimeters	
	Min	Max
A	0.90	1.00
A1	0.010	0.100
B	1.20	1.40
bp	0.25	0.45
C	0.09	0.15
D	2.00	2.20
E	1.15	1.35
HE	2.15	2.55
Lp	0.25	0.46
θ	0°	6°