

## Silicon Epitaxial Planar Transistor(NPN)

### Features

High Collector Current  
 Complementary To MMBT3906  
 Excellent HFE Linearity



### Absolute Maximum Ratings\* T<sub>A</sub> = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	60	V
V <sub>CEO</sub>	Collector-Emitter Voltage	40	V
V <sub>EBO</sub>	Emitter-Base Voltage	6	V
I <sub>C</sub>	Collector Current -Continuous	200	mA
P <sub>C</sub>	Collector Dissipation	200	mW
T <sub>J</sub> , T <sub>stg</sub>	Junction and Storage Temperature	-55~150	°C

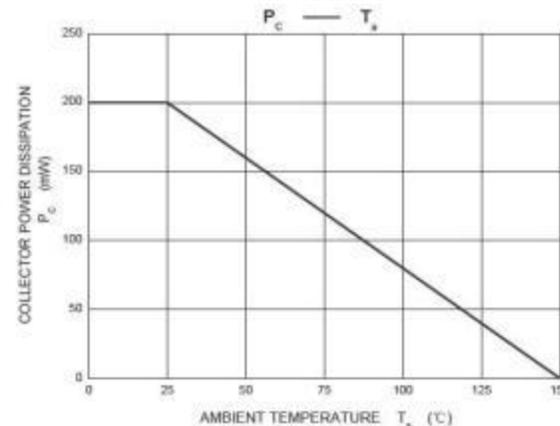
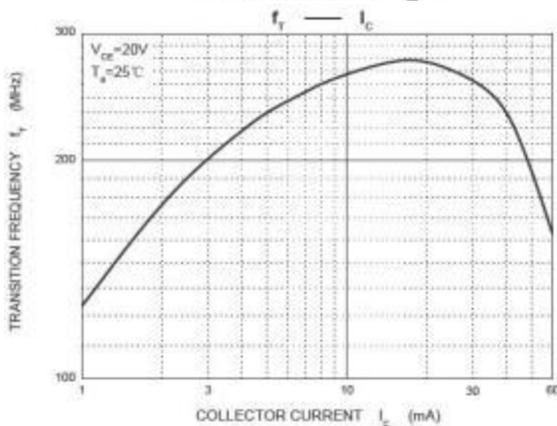
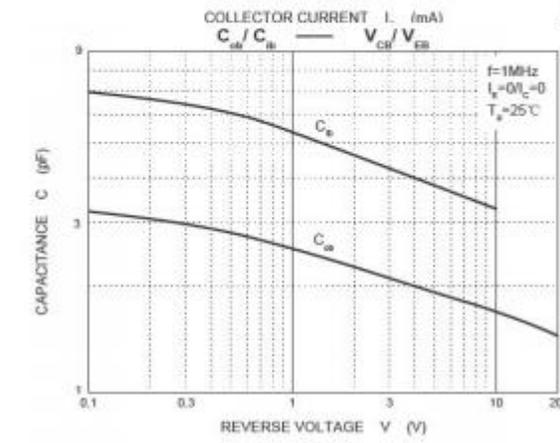
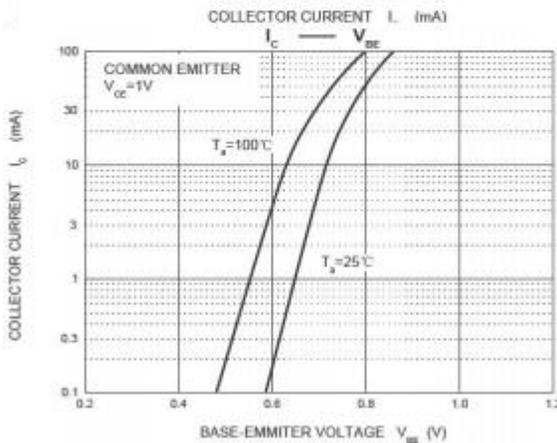
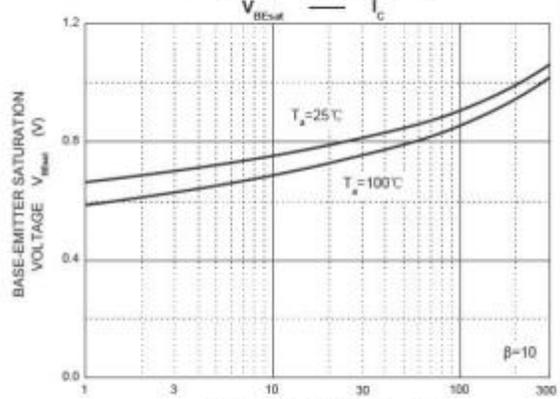
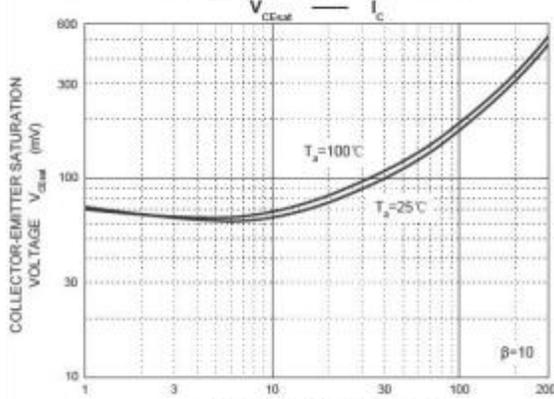
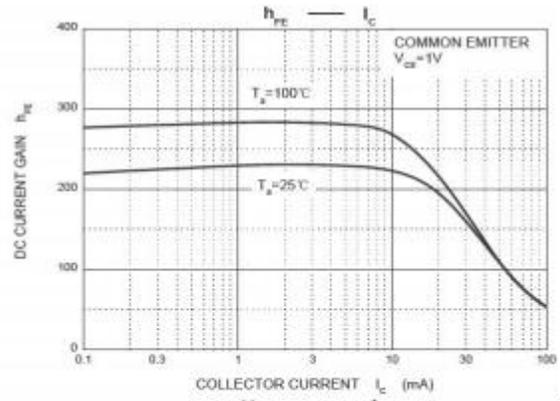
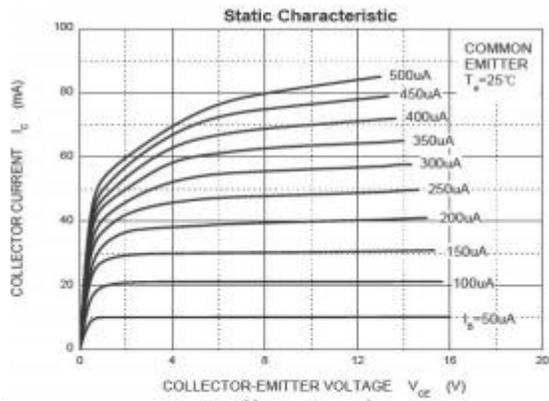
### Electrical Characteristics T<sub>A</sub> = 25°C unless otherwise noted

Parameter	Symbols	Test Condition	Min	Max	Unit
Collector-base breakdown voltage	V(BR)CBO	IC=10uA, IE=0	60		V
Collector-emitter breakdown voltage	V(BR)CEO	IC=1mA, IB=0	40		V
Emitter-base breakdown voltage	V(BR)EBO	IE=10uA, IC=0	6		V
Collector cut-off current	ICEX	VCE=30V, VEB(off)=3V		50	nA
Collector cut-off current	ICBO	VCB=60V, IE=0		100	nA
Emitter cut-off current	IEBO	VEB=5V, IC=0		100	nA
DC current gain	hFE(1)	VCE=1V, IC=10mA	100	300	
	hFE(2)	VCE=1V, IC=50mA	60		
	hFE(3)	VCE=1V, IC=100mA	30		
Collector-emitter saturation voltage	VCE(sat)	IC=50mA, IB=5mA		0.30	V
Base-emitter saturation voltage	VBE(sat)	IC=50mA, IB=5mA		0.95	V
Transition frequency	fT	VCE=20V, IC=10mA, f=100MHz	300		MHz
Delay time	td	VCC=3V, VBE(off)=-0.5V, IC=10mA, IB1=1mA		35	nS
Rise time	tr	VCC=3V, VBE(off)=-0.5V, IC=10mA, IB1=1mA		35	nS
Storage time	ts	VCC=3V, IC=10mA, IB1=IB2=1mA		200	nS
Fall time	tf	VCC=3V, IC=10mA, IB1=IB2=1mA		50	nS

### Device Information

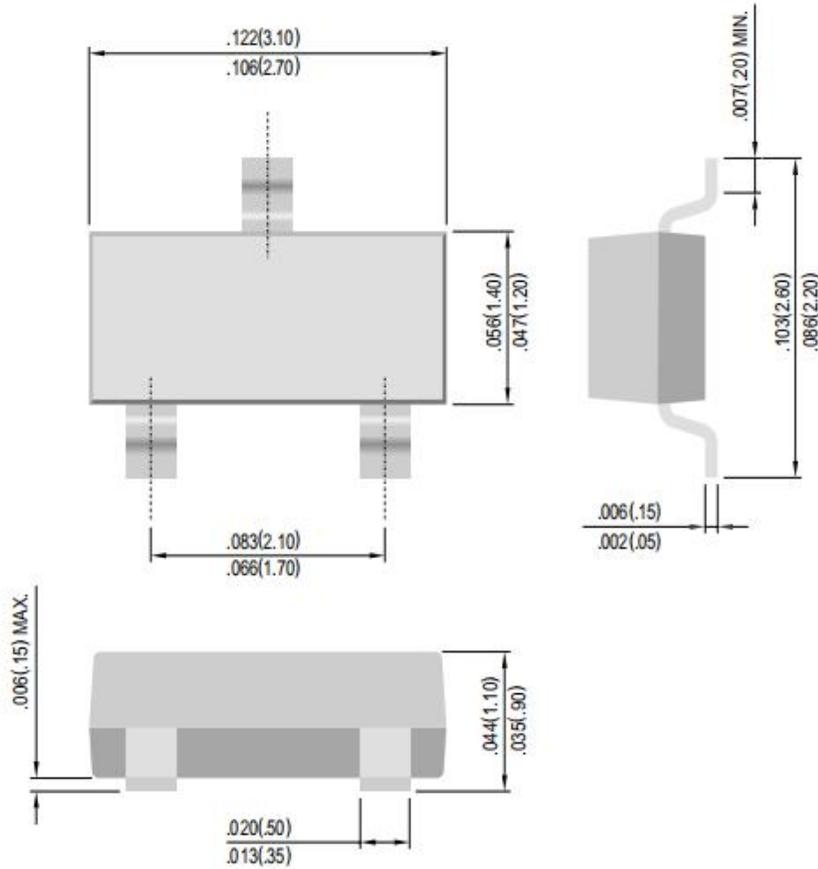
Type	MMBT3904
Marking	1AM
HFE	100-300

**Typical Characteristics**



OUTLINE DRAWING

SOT-23



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