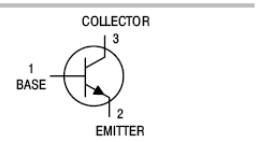
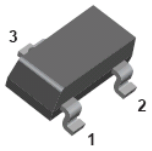
NPN Silicon Epitaxial Planar Transistor **MMBT1616A**

FEATURES

- Audio frequency power amplifier.
- Medium speed switching.

Lead-free





SOT-23

APPLICATIONS

- General purpose application, switching application.

ORDERING INFORMATION

Type No.	Marking	Package Code
MMBT1616A	16A	SOT-23

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current –Continuous DC Pulse width≤10ms	1 2	A
P_C	Collector Power Dissipation	350	mW
T_j, T_{stg}	Junction and Storage Temperature	-55~150	℃

NPN Silicon Epitaxial Planar Transistor **MMBT1616A**

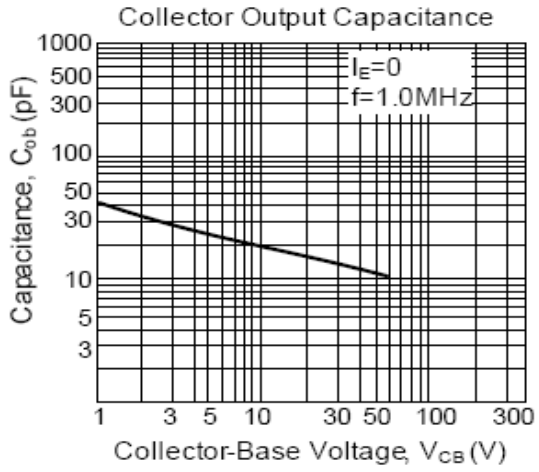
ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

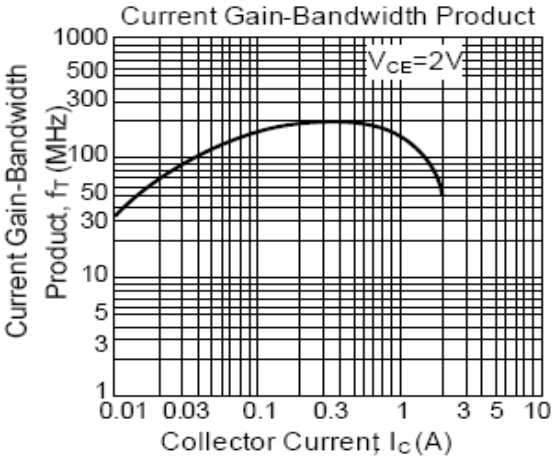
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	120			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=60V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=6V,I_C=0			0.1	μA
DC current gain	h_{FE}	V_{CE}=2V,I_C=100mA V_{CE}=2V, I_C=1A	135 81		600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=1A, I_B=50mA		0.15	0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=1A, I_B=50mA		0.9	1.2	V
Base-emitter on voltage	$V_{BE(on)}$	V_{CE}=2V, I_C=50mA	0.6	0.64	0.7	V
Transition frequency	f_T	V_{CE}=2V, I_C= 100mA	100	160		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=1MHz			19	pF
Turn on time	t_{on}	V_{CE}=10V,I_C=100mA		0.07		μS
Fall time	t_f	$V_{BE(off)}$=2-3V		0.07		μS
Storage time	t_s	I_{B1}=I_{B2}=10mA		0.95		μS

CLASSIFICATION OF h_{FE1}

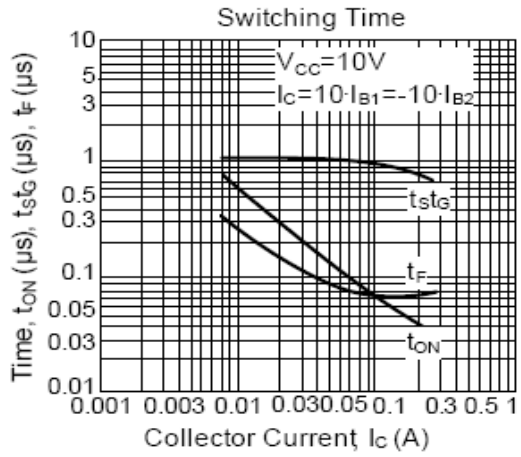
RANK	Y	G	L
h_{FE1}	135-270	200-400	300-600

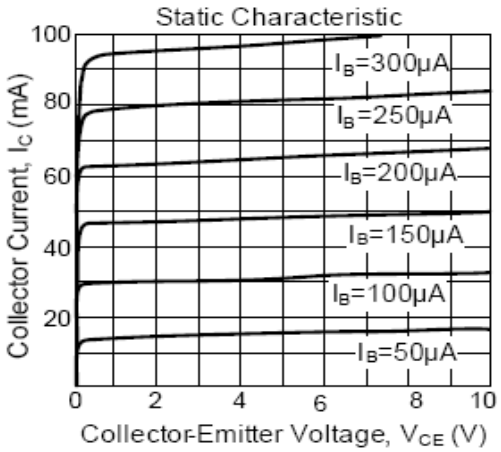
TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

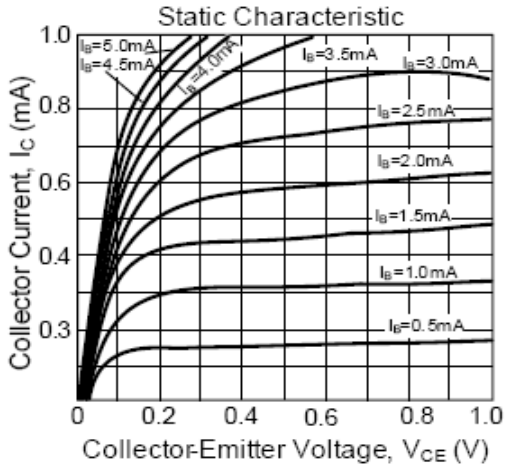


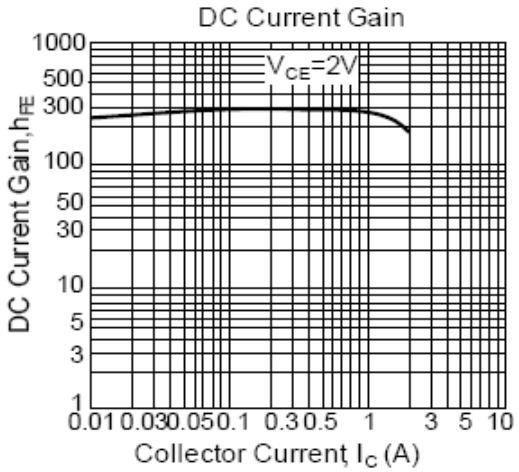


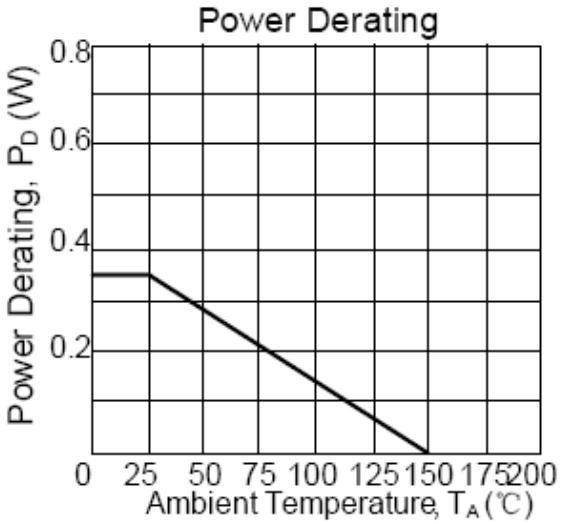
NPN Silicon Epitaxial Planar Transistor **MMBT1616A**







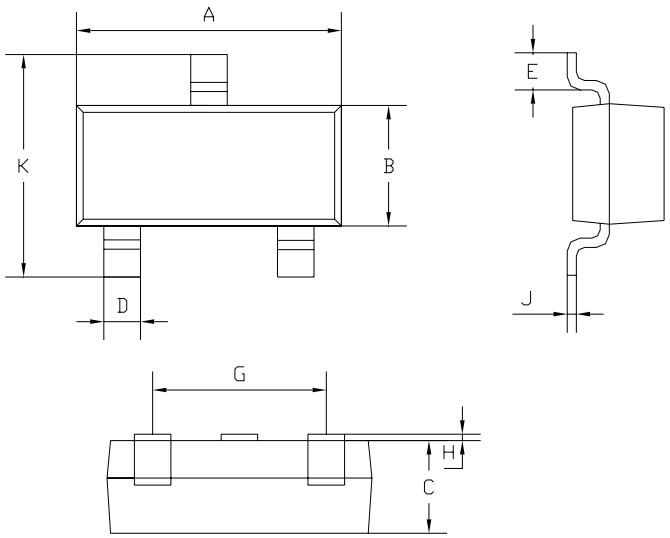




NPN Silicon Epitaxial Planar Transistor **MMBT1616A**

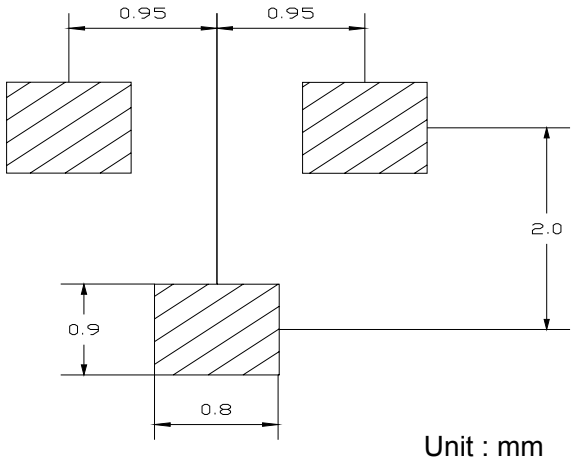
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.85	2.95
B	1.25	1.35
C	1.0Typical	
D	0.37	0.43
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1Typical	
K	2.35	2.45
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
MMBT1616A	SOT-23	3000/Tape&Reel