

## NPN Silicon Epitaxial Planar Transistor

## MMBT1616A

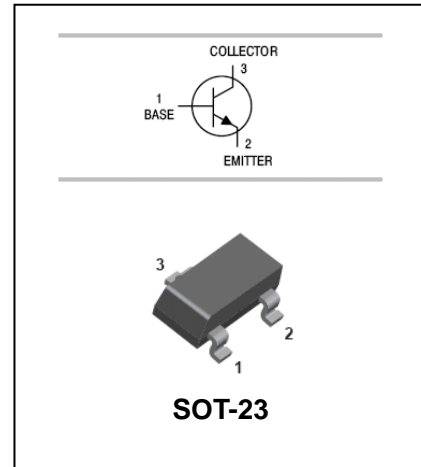
### FEATURES

- Audio frequency power amplifier.
- Medium speed switching.



### APPLICATIONS

- General purpose application, switching application.



### ORDERING INFORMATION

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

### MAXIMUM RATING @ Ta=25°C 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	°C

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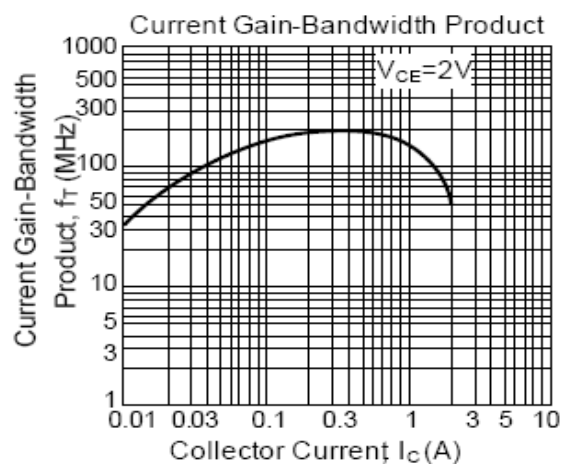
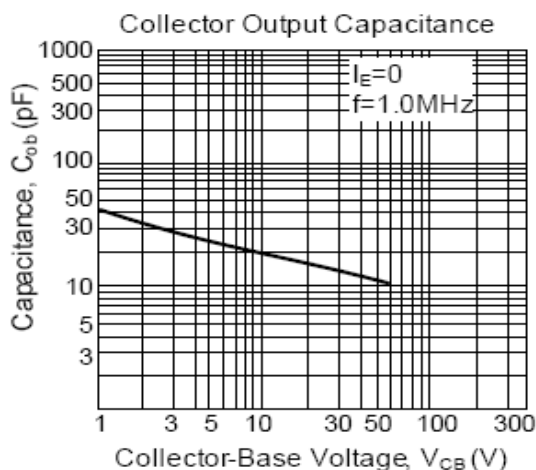
### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	120			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=60V, I_E=0$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=6V, I_C=0$			0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=2V, I_C=100mA$	135		600	
		$V_{CE}=2V, I_C=1A$	81			
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		$\mu S$
Fall time	$t_f$	$V_{BE(off)}=2-3V$		0.07		$\mu S$
Storage time	$t_s$	$I_{B1}=I_{B2}=10mA$		0.95		$\mu S$

### CLASSIFICATION OF $h_{FE1}$

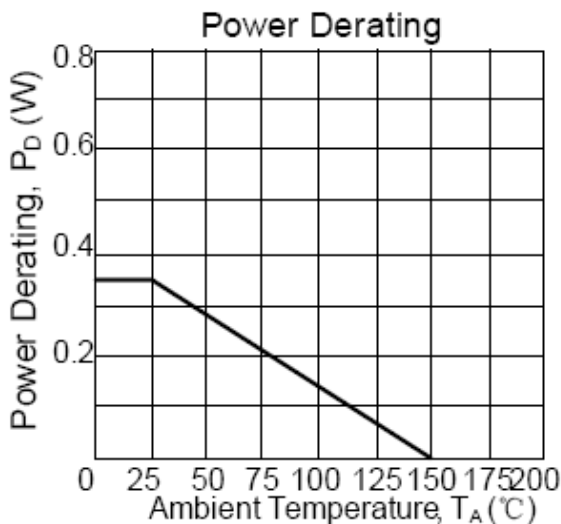
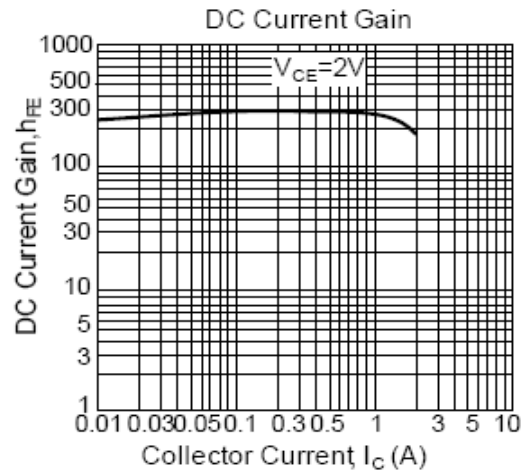
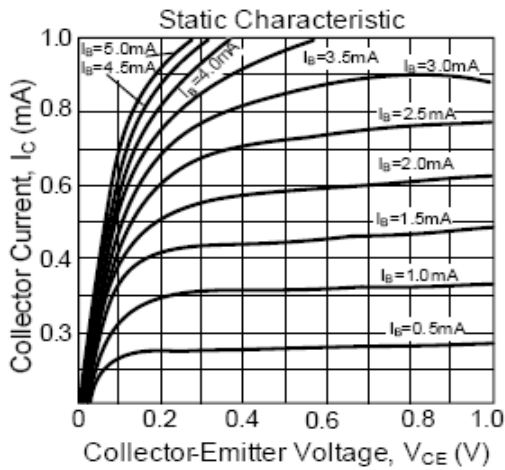
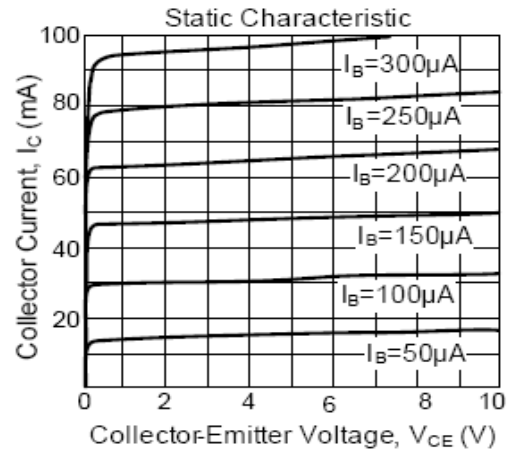
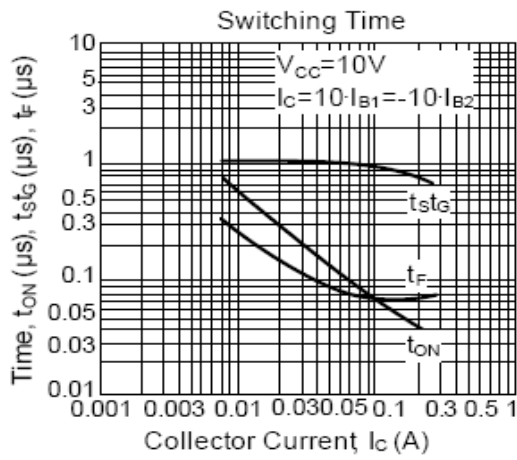
RANK	Y	G	L
$h_{FE1}$	135-270	200-400	300-600

### TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



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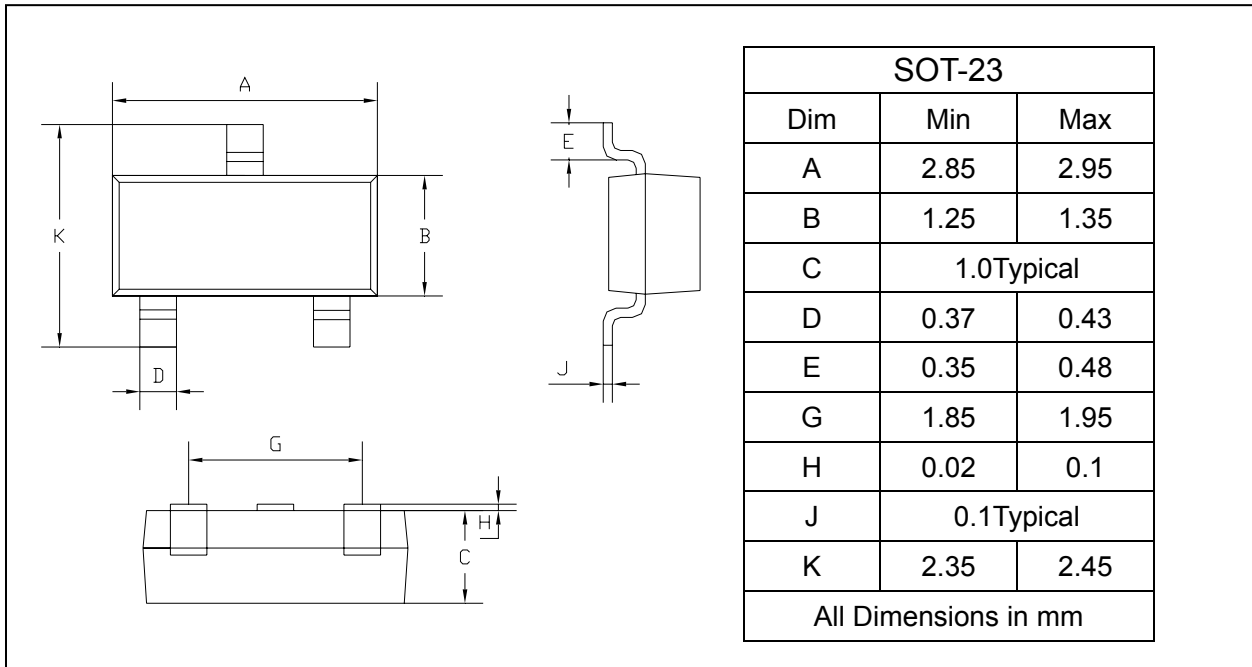
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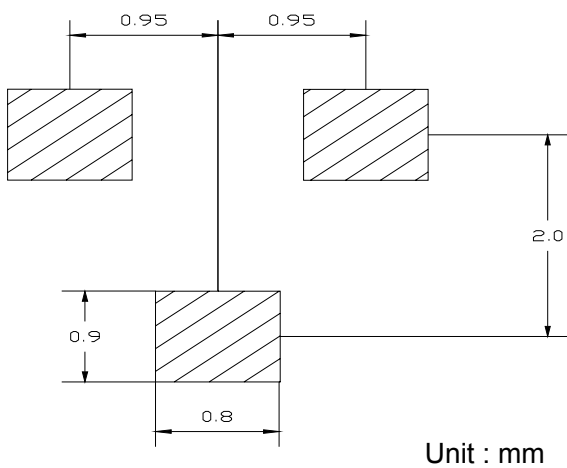
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

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

[www.s-manuals.com](http://www.s-manuals.com)