

## NPN Silicon Epitaxial Planar Transistor

## MMBT1616A

### FEATURES

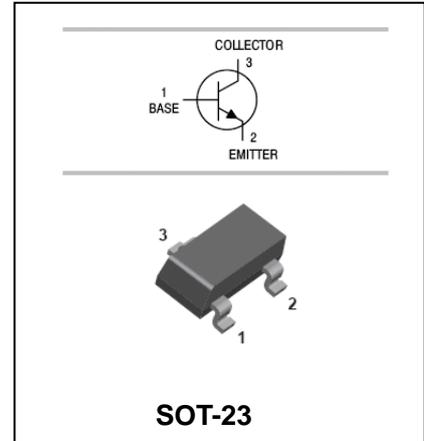
- Audio frequency power amplifier.
- Medium speed switching.



Lead-free

### 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	Unit
$V_{CBO}$	Collector-Base Voltage	120	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current -Continuous	1000	mA
$P_C$	Collector Dissipation	350	mW
$T_j, T_{stg}$	Junction and Storage Temperature	-55 to +150	°C

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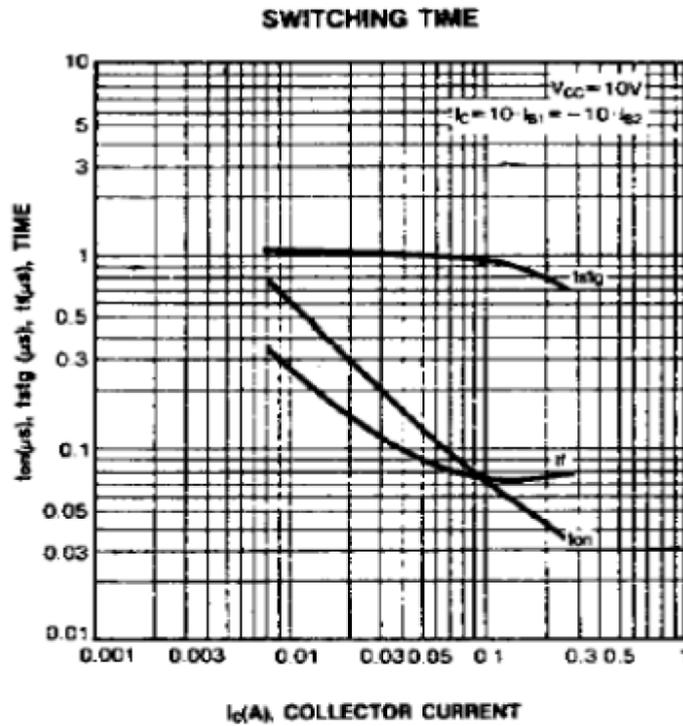
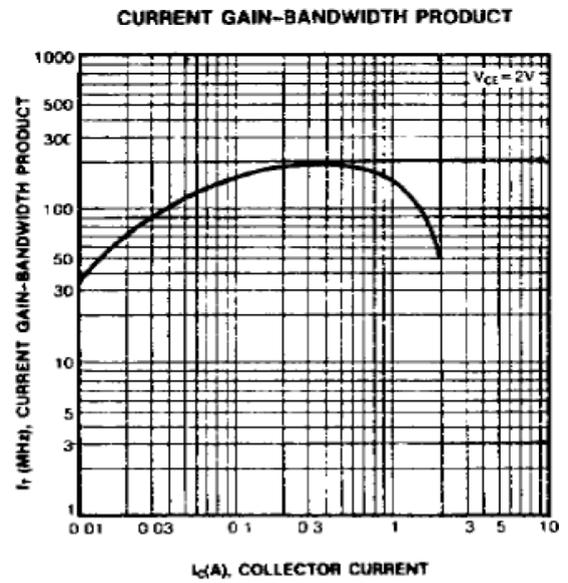
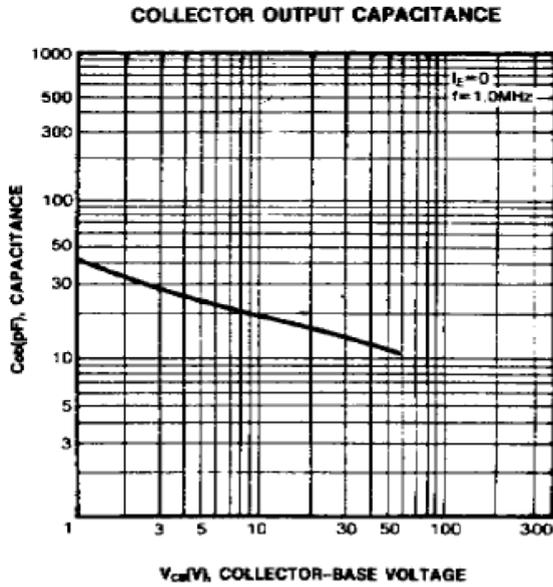
**ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**

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	$\mu A$
Collector cut-off current	$I_{EBO}$	$V_{CE}=6V$ $I_C=0$			0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=2V$ $I_C=100mA$	135		400	
		$V_{CE}=2V$ $I_C=1A$	81			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1A$ $I_B=50mA$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=1A$ $I_B=50mA$			1.2	V
Transition frequency	$f_T$	$V_{CE}=2V$ $I_C=100mA$	100			MHz
Output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1.0MHz$			19	pF
Delay time	$t_{on}$	$V_{CE}=10V, I_C=100mA$		0.07		us
Rise time	$T_f$	$V_{BE(off)}=2-3V$		0.07		us
Storage time	$t_s$	$I_{B1}=I_{B2}=10mA$		0.95		us

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TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified



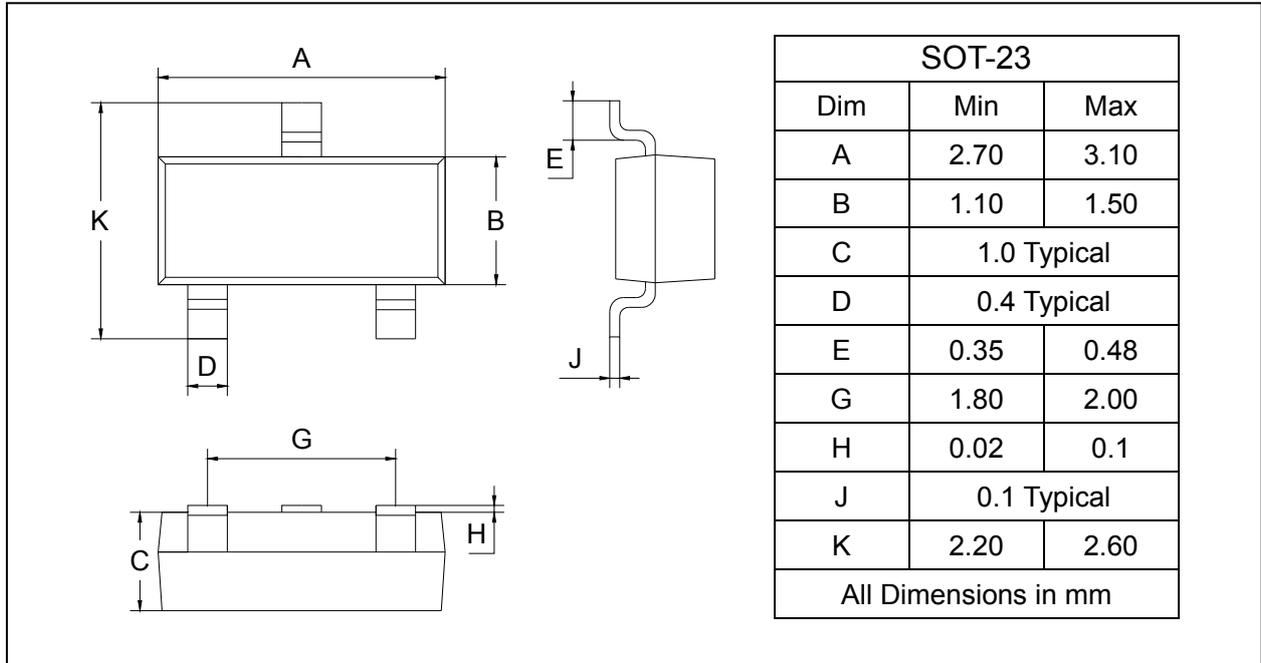
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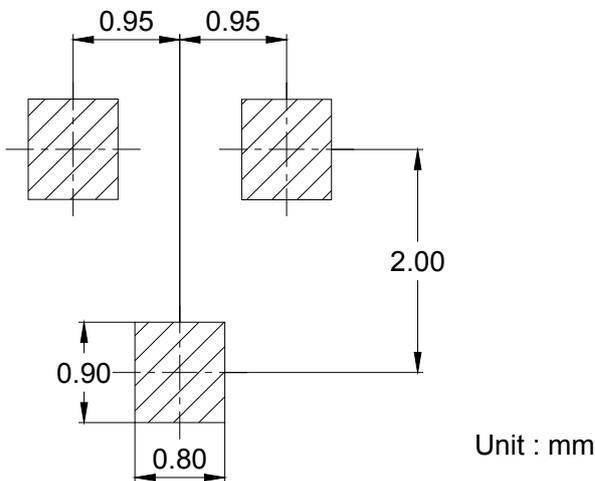
## PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



## SOLDERING FOOTPRINT



## PACKAGE INFORMATION

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