

NPN Silicon Epitaxial Planar Transistor

MMBT1616A

FEATURES

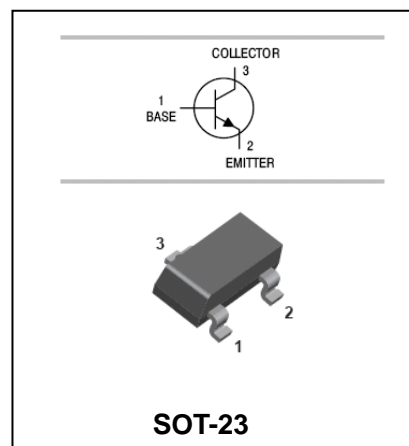
- Audio frequency power amplifier.
- Medium speed switching.



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

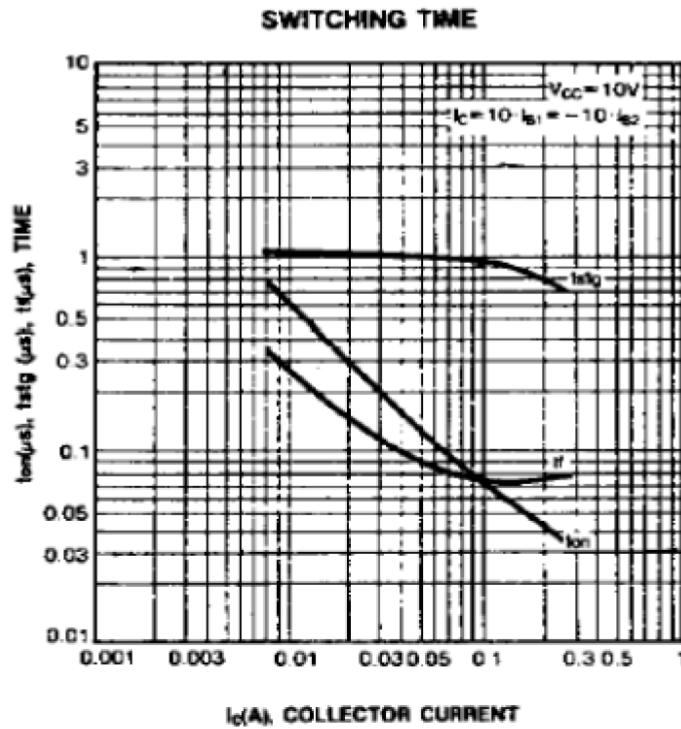
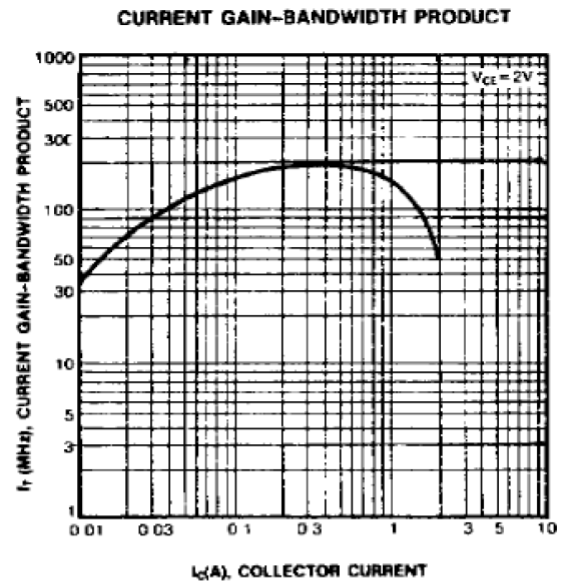
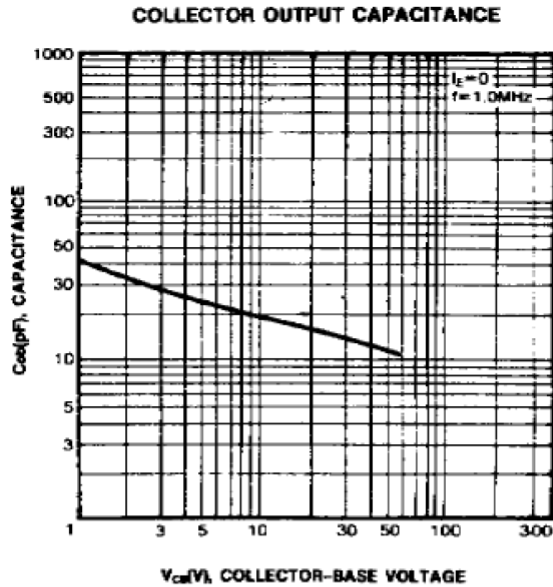
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A I_E=0$	120			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA I_B=0$	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=60V I_E=0$			0.1	μA
Collector cut-off current	I_{EBO}	$V_{CE}=6V I_C=0$			0.1	μA
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 @ Ta=25°C unless otherwise specified



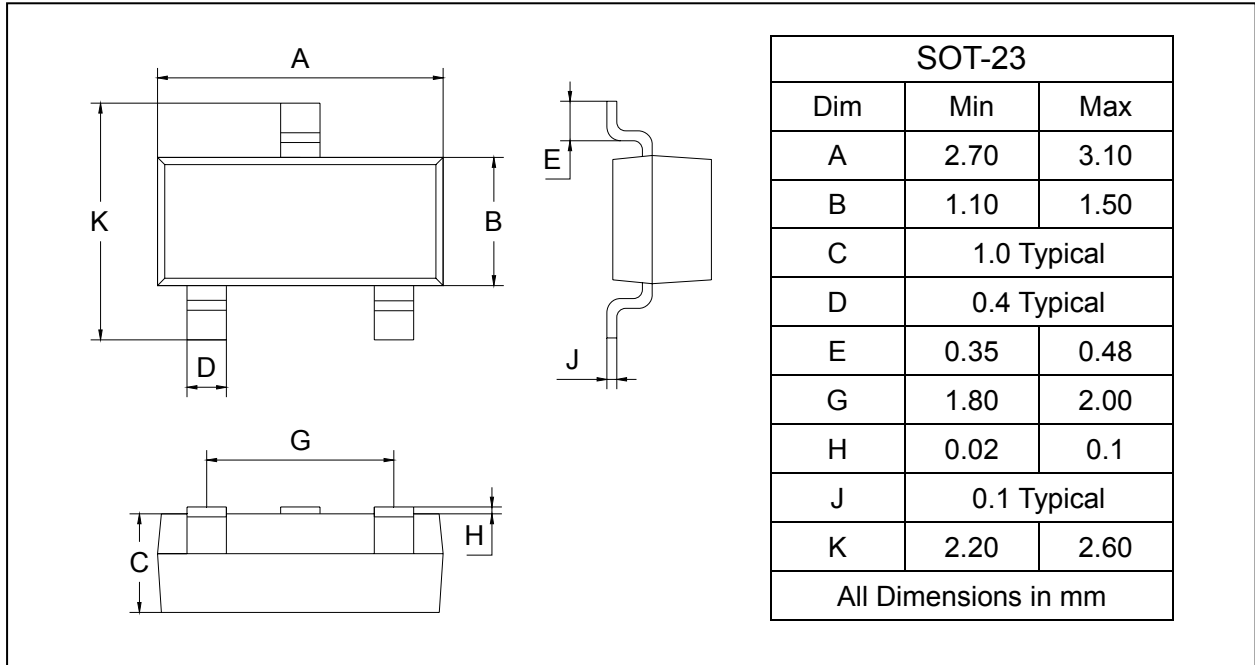
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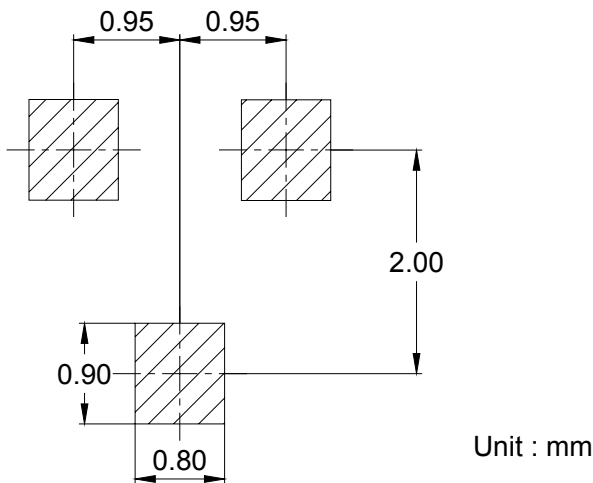
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

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