

SOT-23 Plastic-Encapsulate Transistors

MMBT1616A TRANSISTOR (NPN)

FEATURES

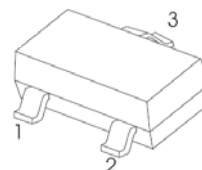
- Audio frequency power amplifier
- Medium speed switching

MARKING:16A

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	120	V
V _{CEO}	Collector-Emitter Voltage	60	V
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current	1	A
P _C	Collector Power Dissipation	350	mW
R _{θJA}	Thermal Resistance From Junction To Ambient	357	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C

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1. BASE
2. EMITTER
3. COLLECTOR

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =10μA, I _E =0	120			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =2mA, I _B =0	60			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	6			V
Collector cut-off current	I _{CBO}	V _{CB} = 60V, I _E =0			100	nA
Emitter cut-off current	I _{EBO}	V _{EB} =6V, I _C =0			100	nA
DC current gain	h _{FE(1)}	V _{CE} =2V, I _C =100mA	135		600	
	h _{FE(2)}	V _{CE} =2V, I _C =1A	81			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =1A, I _B =50mA			0.3	V
Collector-emitter saturation voltage	V _{BE(sat)}	I _C =1A, I _B =50mA			1.2	V
Base-emitter voltage	V _{BE}	V _{CE} =2V, I _C =50mA	0.6		0.7	V
Transition frequency	f _T	V _{CE} =2V, I _C =100mA, f=100MHz	100			MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz			19	pF

CLASSIFICATION OF h_{FE(1)}

RANK	Y	G	L
RANGE	135~270	200~400	300~600