

TRANSISTOR(NPN)

FEATURES

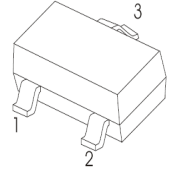
- For Switching and Amplifier Applications
- Complementary Type PNP Transistor MMBTA56

MARKING: 1GM

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current	500	mA
P_C	Collector Power Dissipation	300	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	416	$^{\circ}\text{C/W}$
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

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1. BASE
2. EMITTER
3. COLLECTOR

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=0.1\text{mA}$, $I_E=0$	80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}$, $I_B=0$	80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.1\text{mA}$, $I_C=0$	4			V
Collector cut-off current	I_{CBO}	$V_{CB}=80\text{V}$, $I_E=0$			0.1	μA
Collector cut-off current	I_{CES}	$V_{CE}=60\text{V}$, $I_B=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=3\text{V}$, $I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}$, $I_C=10\text{mA}$	100		400	
	$h_{FE(2)}$	$V_{CE}=1\text{V}$, $I_C=100\text{mA}$	100			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}$, $I_B=10\text{mA}$			0.25	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100\text{mA}$, $I_B=10\text{mA}$			1.2	V
Transition frequency	f_T	$V_{CE}=2\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$	100			MHz