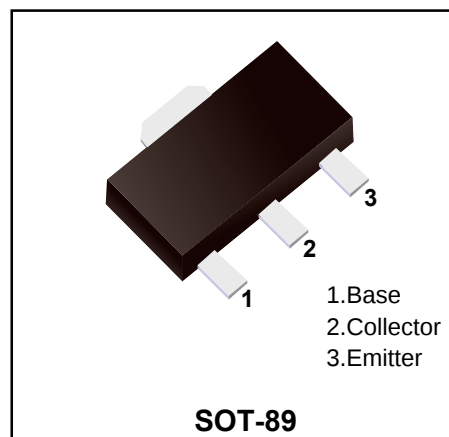


NPN Silicon Epitaxial Planar Transistor

for high voltage switching and amplifier applications.



Marking Code	
MMBTA44SI	A44

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbols	Value	Units
Collector-Base Voltage	V_{CBO}	500	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	300	mA
Total Power Dissipation	P_{tot}	625	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Characteristics at Ta = 25°C

Characteristics	Symbols	Min	Max	Units
DC Current Gain				
at $V_{CE}=10V, I_C=1\text{ mA}$	h_{FE}	40	-	
at $V_{CE}=10V, I_C=10\text{ mA}$	h_{FE}	50	200	
at $V_{CE}=10\text{ V}, I_C=50\text{ mA}$	h_{FE}	45	-	
at $V_{CE}=10V, I_C=100\text{ mA}$	h_{FE}	40	-	
Collector Base Cutoff Current at $V_{CB}=400V$	I_{CBO}	-	0.1	μA
Collector Emitter Cutoff Current at $V_{CE}=400\text{ V}$	I_{CES}	-	0.5	μA
Emitter Base Cutoff Current at $V_{EB}=4V$	I_{EBO}	-	0.1	μA
Collector Base Breakdown Voltage at $I_C=100\text{ }\mu A$	$V_{(BR)CBO}$	500	-	V
Collector Emitter Breakdown Voltage at $I_C=1\text{ mA}$	$V_{(BR)CEO}$	400	-	V
Emitter Base Breakdown Voltage at $I_E=100\text{ }\mu A$	$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage at $I_C=1\text{ mA}, I_B=0.1\text{ mA}$	$V_{CE(sat)}$	-	0.4	V
at $I_C=10\text{ mA}, I_B=1\text{ mA}$	$V_{CE(sat)}$	-	0.5	V
at $I_C=50\text{ mA}, I_B=5\text{ mA}$	$V_{CE(sat)}$	-	0.75	V
Base Emitter Saturation Voltage at $I_C=10\text{ mA}, I_B=1\text{ mA}$	$V_{BE(sat)}$	-	0.75	V
Collector Output Capacitance at $V_{CB}=20V, f=1\text{ MHz}$	C_{ob}	-	7	pF

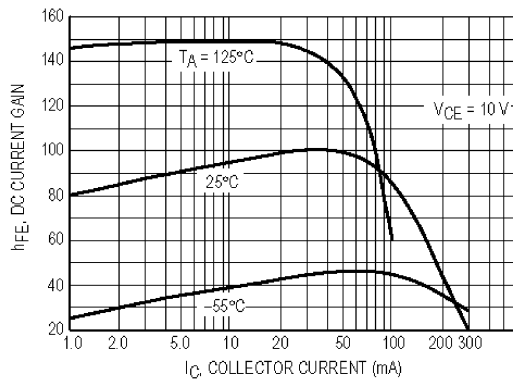


Figure 1. DC Current Gain

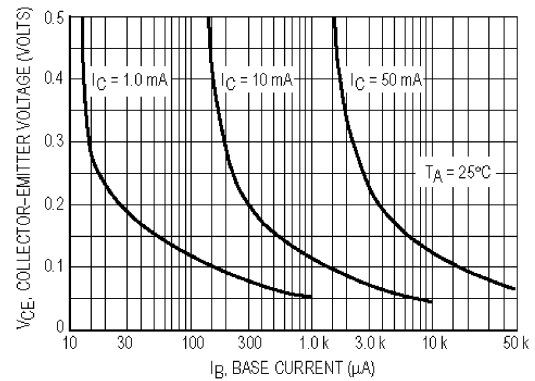


Figure 2. Collector Saturation Region

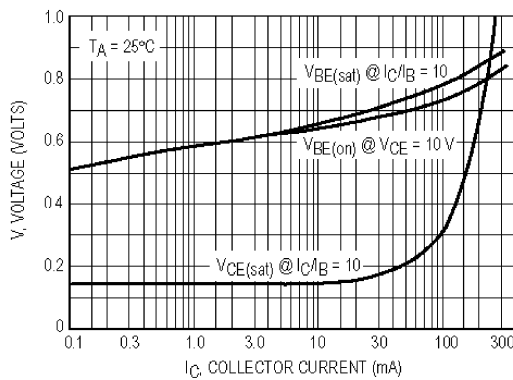


Figure 3. "On" Voltages

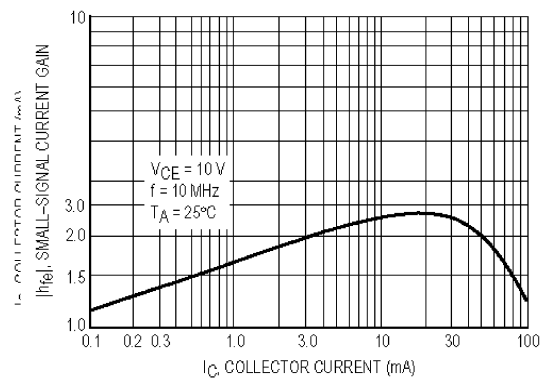


Figure 4. High Frequency Current Gain

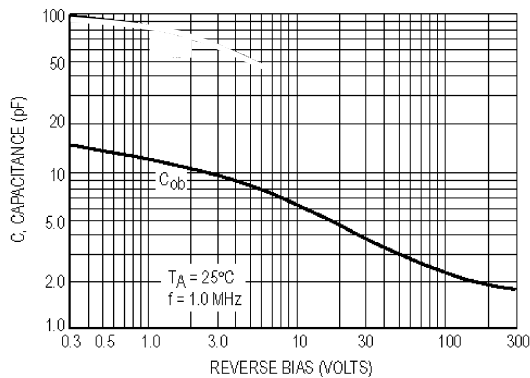


Figure 5. Capacitance

Ordering information

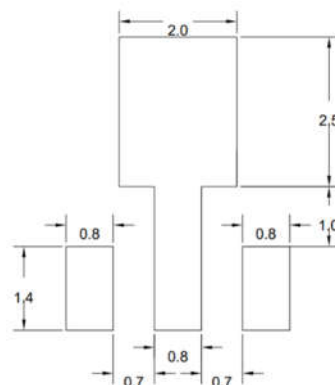
Package	Packing Description	Base Quantity	Packing Quantity
SOT-89	Tape/Reel, 7" reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton

Package Dimensions

SOT-89

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
b	0.32	0.52	0.013	0.020
b1	0.38	0.58	0.015	0.023
c	0.35	0.45	0.014	0.018
D	4.40	4.60	0.173	0.181
D1	1.45	1.65	0.057	0.065
D2	1.70	1.80	0.067	0.071
E	2.30	2.60	0.091	0.102
E1	3.95	4.25	0.156	0.167
E2	1.80	2.00	0.071	0.079
e	1.40	1.60	0.055	0.063
e1	2.80	3.20	0.110	0.126
L	0.90	1.20	0.035	0.047

The recommended mounting pad size



UNIT:MM

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