



MMBTA94

PNP SILICON TRANSISTOR

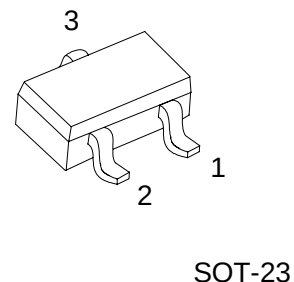
HIGH VOLTAGE TRANSISTOR

■ FEATURES

- *Collector-Emitter voltage: $V_{CE0}=-400V$
- *Collector Dissipation: $P_{C(MAX)}=350mW$
- *Low collector-Emitter saturation voltage

■ APPLICATIONS

- *Telephone switching
- *High voltage switch



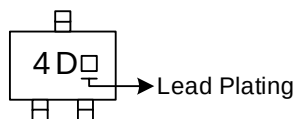
*Pb-free plating product number: MMBTA94L

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
MMBTA94-AE3-R	MMBTA94L-AE3-R	SOT-23	E	B	C	Tape Reel

MMBTA94L-AE3-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AE3: SOT-23
	(3)Lead Plating	(3) L: Lead Free Plating, Blank: Pb/Sn

■ MARKING



■ ABSOLUTE MAXIMUM RATING (Operating temperature range applies unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-400	V
Collector-Emitter Voltage	V_{CEO}	-400	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Dissipation ($T_a=25^\circ\text{C}$)	P_C	350	mW
Collector Current	I_C	-300	mA
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40~+150	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

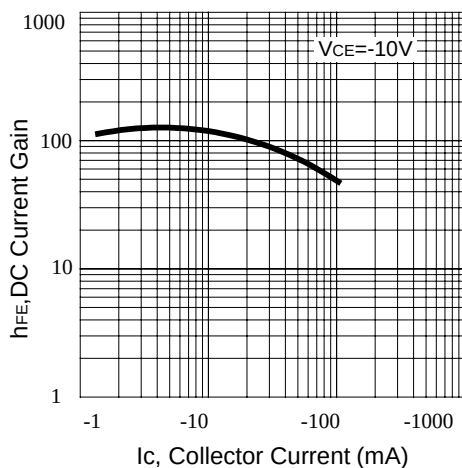
■ ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=-100\mu\text{A}, I_E=0$	-400			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=-1\text{mA}, I_B=0$	-400			V
Collector-Emitter Breakdown Voltage	BV_{CES}	$I_C=-100\mu\text{A}, V_{BE}=0$	-400			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=-100\mu\text{A}, I_C=0$	-5			V
Collector Cut-off Current	I_{CBO}	$V_{CB}=-300\text{V}, I_E=0$			-100	nA
Collector Cut-off Current	I_{CES}	$V_{CB}=-400\text{V}, V_{BE}=0$			-1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=-4\text{V}, I_C=0$			100	nA
DC Current Gain (note)	h_{FE}	$V_{CE}=-10\text{V}, I_C=-1\text{mA}$	60		300	
		$V_{CE}=-10\text{V}, I_C=-10\text{mA}$	70			
		$V_{CE}=-10\text{V}, I_C=-50\text{mA}$	70			
		$V_{CE}=-10\text{V}, I_C=-100\text{mA}$	40			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=-10\text{mA}, I_B=-1\text{mA}$ $I_C=-50\text{mA}, I_B=-5\text{mA}$			-0.20 -0.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=-10\text{mA}, I_B=-1\text{mA}$			-0.75	V
Output Capacitance	C_{ob}	$V_{CB}=-20\text{V}, I_E=0, f=1\text{MHz}$			7	pF

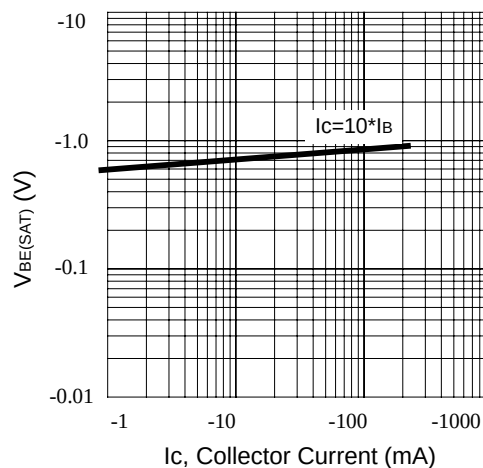
Note: Pulse test: $PW < 300\mu\text{s}$, Duty Cycle $< 2\%$

■ TYPICAL CHARACTERISTICS

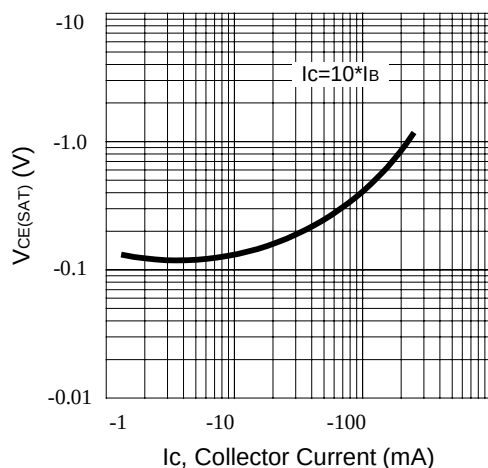
DC Current Gain



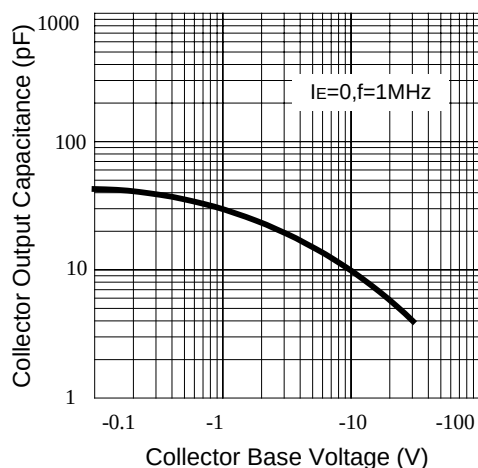
Base-Emitter Saturation Voltage



Collector-Emitter Saturation Voltage



Collector Output capacitance



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