



MMBTA194

PNP SILICON TRANSISTOR

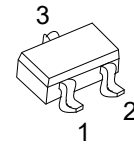
HIGH VOLTAGE TRANSISTOR

FEATURES

- * Collector-Emitter Voltage: $V_{CEO} = -500V$
- * Collector Dissipation: $P_{C(MAX)} = 300mW$
- * Low Collector-Emitter Saturation Voltage

APPLICATIONS

- * Telephone Switching
- * High Voltage Switch



SOT-23
(JEDEC TO-236)

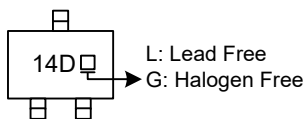
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MMBTA194L-AE3-R	MMBTA194G-AE3-R	SOT-23	B	E	C	Tape Reel

Note: Pin Assignment: B: Base E: Emitter C: Collector

MMBTA194G-AE3-R	(1) Packing Type (2) Package Type (3) Green Package	(1) R: Tape Reel (2) AE3: SOT-23 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING



■ **ABSOLUTE MAXIMUM RATING** ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-500	V
Collector-Emitter Voltage	V_{CEO}	-500	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current	DC I_C	-300	mA
Collector Dissipation ($T_A=25^{\circ}\text{C}$)	P_C	350	mW
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.

■ **THERMAL DATA**

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	357	$^{\circ}\text{C/W}$

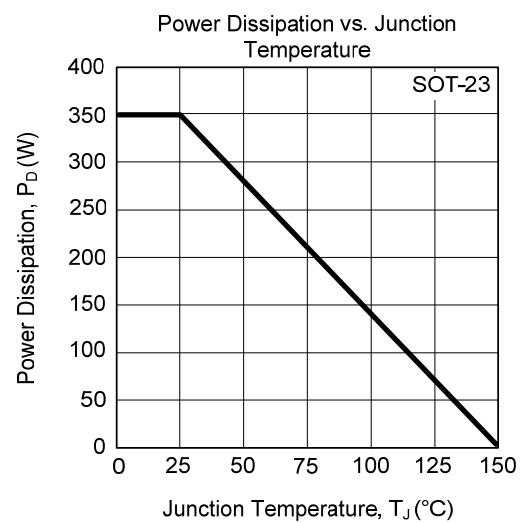
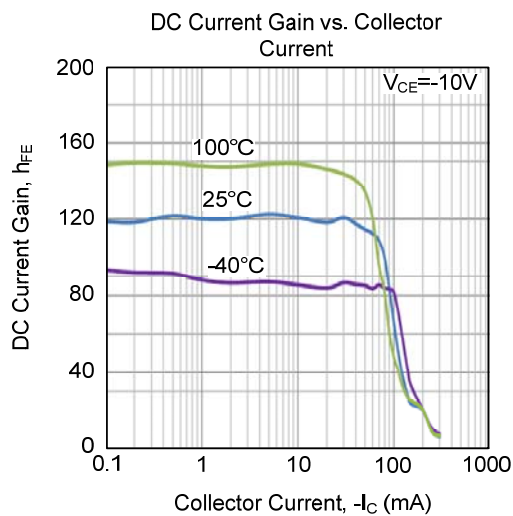
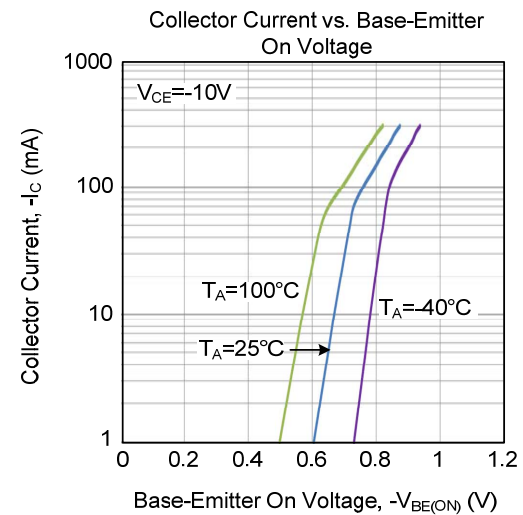
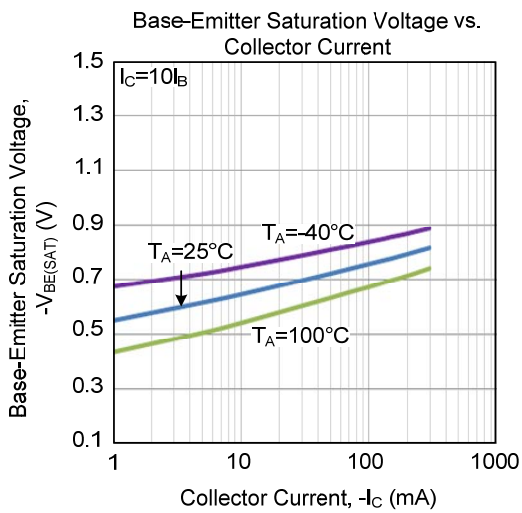
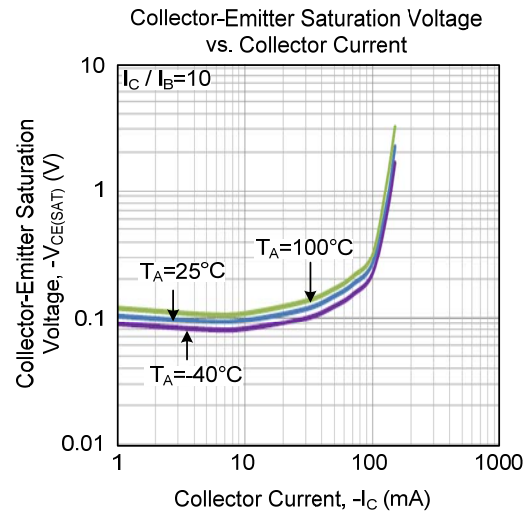
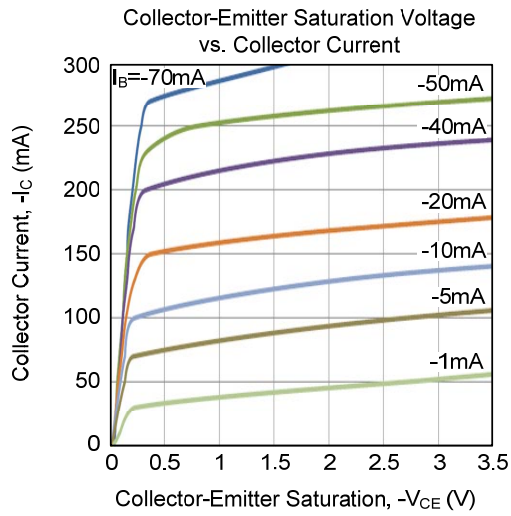
Note: Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

■ **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}	$I_C = -100\mu\text{A}$, $I_E=0$	-500			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -1\text{mA}$, $I_B=0$	-500			V
Collector-Emitter Breakdown Voltage	BV_{CES}	$I_C = -100\mu\text{A}$, $V_{BE}=0$	-500			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -100\mu\text{A}$, $I_C=0$	-6			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -500\text{V}$, $I_E=0$			-100	nA
Collector Cut-off Current	I_{CES}	$V_{CB} = -500\text{V}$, $V_{BE}=0$			-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			
		$V_{CE} = -10\text{V}$, $I_C = -10\text{mA}$	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	$V_{CE(SAT)}$	$I_C = -10\text{mA}$, $I_B = -1\text{mA}$			-0.2	V
		$I_C = -50\text{mA}$, $I_B = -5\text{mA}$			-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = -10\text{mA}$, $I_B = -1\text{mA}$			-0.75	V

Note: Pulse test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.

TYPICAL CHARACTERISTICS



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