



MMBTA92

PNP SILICON TRANSISTOR

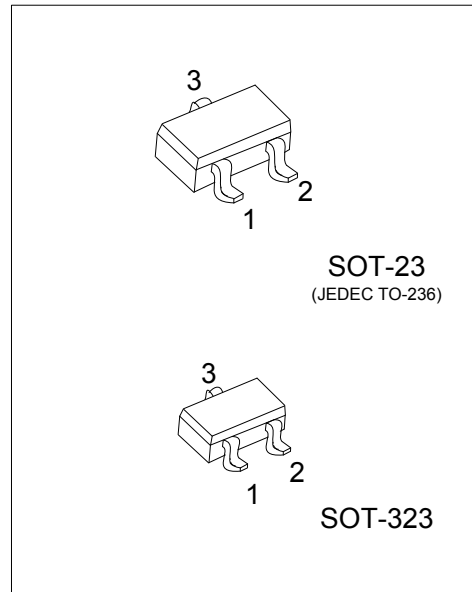
HIGH VOLTAGE PNP TRANSISTOR

DESCRIPTION

The UTC **MMBTA92** are high voltage PNP transistors, designed for telephone signal switching and for high voltage amplifier.

FEATURES

- * High Collector-Emitter voltage: $V_{CE0} = -300V$
- * Collector Dissipation: $P_{C(MAX)} = 350mW$



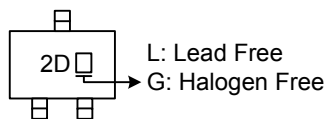
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MMBTA92L-AE3-R	MMBTA92G-AE3-R	SOT-23	B	E	C	Tape Reel
MMBTA92L-AL3-R	MMBTA92G-AL3-R	SOT-323	B	E	C	Tape Reel

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

MMBTA92G-AE3-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AE3: SOT-23, AL3: SOT-323
	(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free

MARKING



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

PARAMETER			SYMBOL	RATINGS	UNIT
Collector-Base Voltage			V_{CBO}	-300	V
Collector-Emitter Voltage			V_{CEO}	-300	V
Emitter-Base Voltage			V_{EBO}	-5	V
Collector Current			I_C	-500	mA
Collector Dissipation (Note 2)	$T_A=25^\circ\text{C}$	SOT-23	P_C	350	mW
		SOT-323		300	mW
	$T_C=25^\circ\text{C}$	SOT-23		0.6	W
		SOT-323		0.5	W
	Derate Above $T_A > 25^\circ\text{C}$	SOT-23		2.8	mW/ $^\circ\text{C}$
		SOT-323		2.4	mW/ $^\circ\text{C}$
Junction Temperature			T_J	+150	$^\circ\text{C}$
Storage Temperature			T_{STG}	-40 ~ +150	$^\circ\text{C}$

Notes: 1. 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.

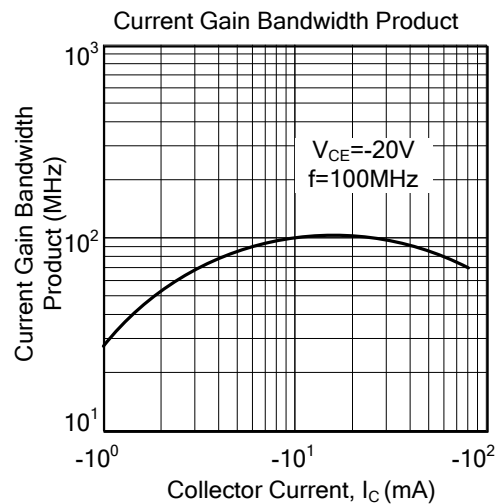
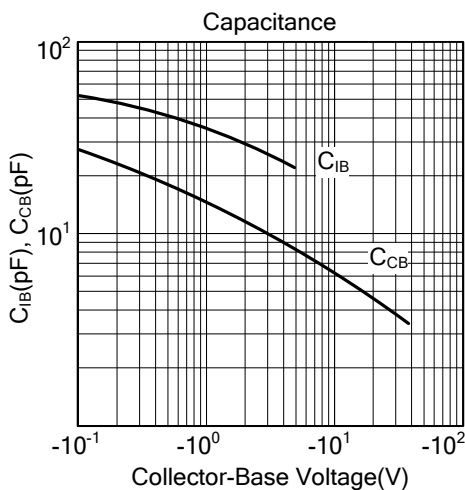
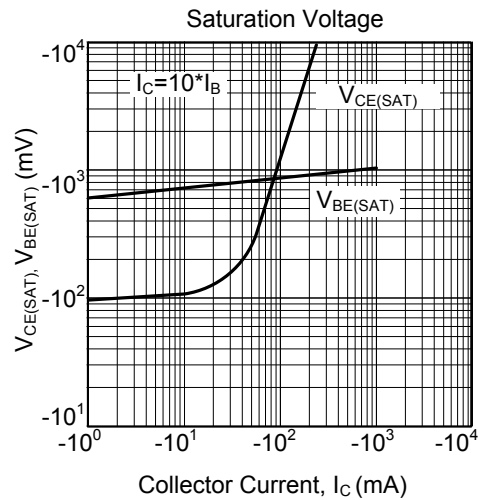
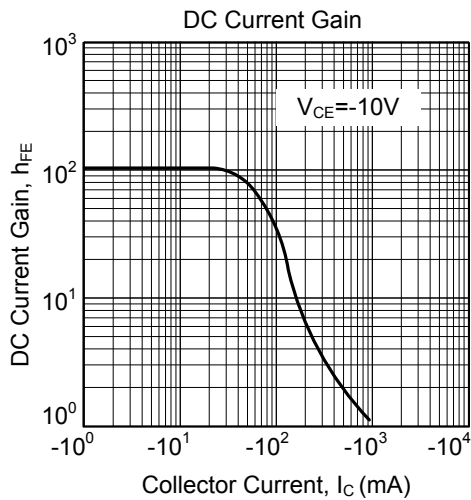
2. Device mounted on FR-4 substrate P_C board, 2oz copper, with 1inch square copper plate.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=-100\mu\text{A}$, $I_E=0$	-300			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=-1\text{mA}$, $I_B=0$	-300			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=-100\mu\text{A}$, $I_C=0$	-5			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-200\text{V}$, $I_E=0$			-0.25	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-3\text{V}$, $I_C=0$			-0.10	μA
DC Current Gain (Note)	h_{FE}	$V_{CE}=-10\text{V}$, $I_C=-1\text{mA}$	60			
		$V_{CE}=-10\text{V}$, $I_C=-10\text{mA}$	80			
		$V_{CE}=-10\text{V}$, $I_C=-30\text{mA}$	80			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)1}$	$I_C=-20\text{mA}$, $I_B=-2\text{mA}$			-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)1}$	$I_C=-20\text{mA}$, $I_B=-2\text{mA}$			-0.90	V
Current Gain Bandwidth Product	f_T	$V_{CE}=-20\text{V}$, $I_C=-10\text{mA}$, $f=100\text{MHz}$	50			MHz
Collector Base Capacitance	C_{cb}	$V_{CB}=-20\text{V}$, $I_E=0$, $f=1\text{MHz}$			6	pF

Note: Pulse test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycles $\leq 2\%$, $V_{CE(SAT)1}\leq 200\text{mV}$ (Class SIN).

■ TYPICAL CHARACTERISTICS



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