



## MMBTA92

## PNP SILICON TRANSISTOR

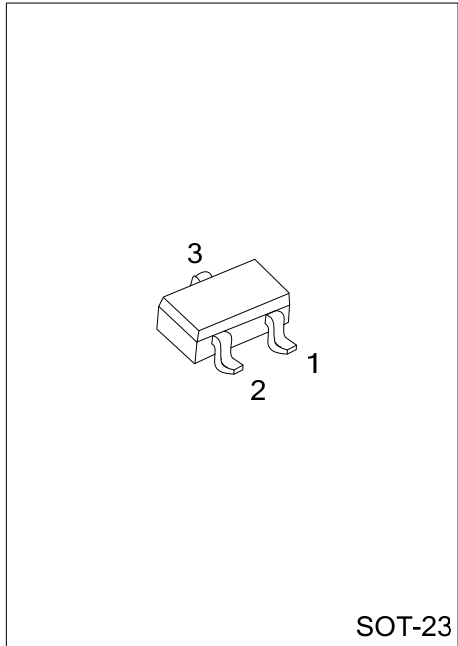
### HIGH VOLTAGE PNP TRANSISTOR

#### 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:  $P_{C(MAX)} = 350mW$



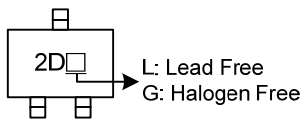
Lead-free: MMBTA92L  
 Halogen-free: MMBTA92G

#### ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free	Halogen Free		1	2	3	
MMBTA92-AE3-R	MMBTA92L-AE3-R	MMBTA92G-AE3-R	SOT-23	E	B	C	Tape Reel

<p>MMBTA92L-AE3-R</p> <p>(1) Packing Type        (2) Package Type        (3) Lead Plating</p>	<p>(1) R: Tape Reel        (2) AE3: SOT-23        (3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn</p>
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#### 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	$T_a=25^\circ\text{C}$	$P_C$	350	mW
	$T_C=25^\circ\text{C}$		1.5	W
	Derate Above $T_a > 25^\circ\text{C}$		12	mW/ $^\circ\text{C}$
Junction Temperature		$T_J$	+150	$^\circ\text{C}$
Storage Temperature		$T_{STG}$	-40 ~ +150	$^\circ\text{C}$

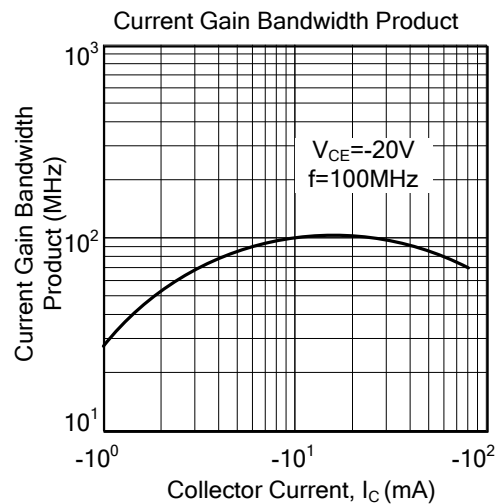
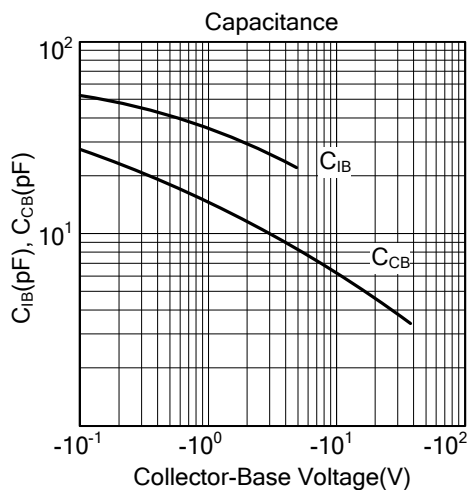
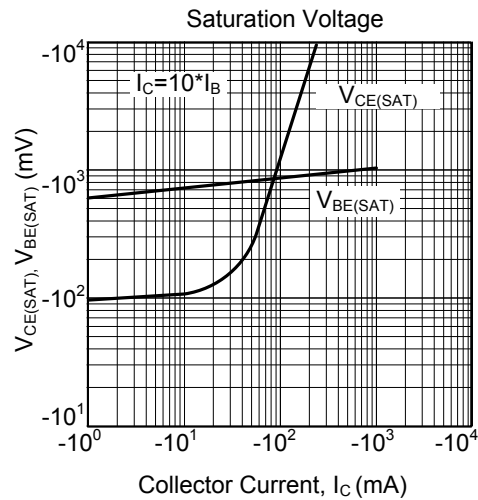
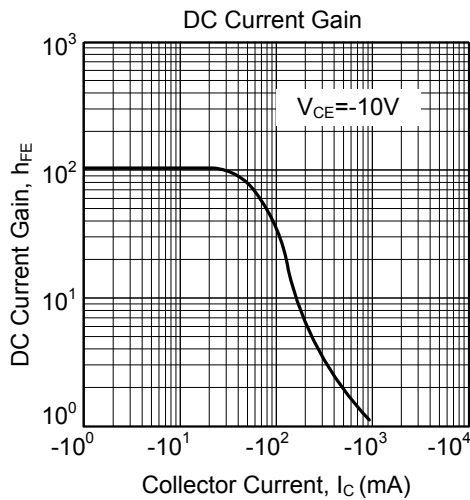
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ( $T_J=25^\circ\text{C}$ , 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	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=-3\text{V}, I_C=0$			-0.10	$\mu\text{A}$
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:  $PW < 300\mu\text{s}$ , Duty Cycle  $< 2\%$ ,  $V_{CE(SAT)1} < 200\text{mV}$  (Class SIN)

■ TYPICAL CHARACTERISTICS



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