



MMBTA42

NPN EPITAXIAL SILICON TRANSISTOR

HIGH VOLTAGE TRANSISTOR

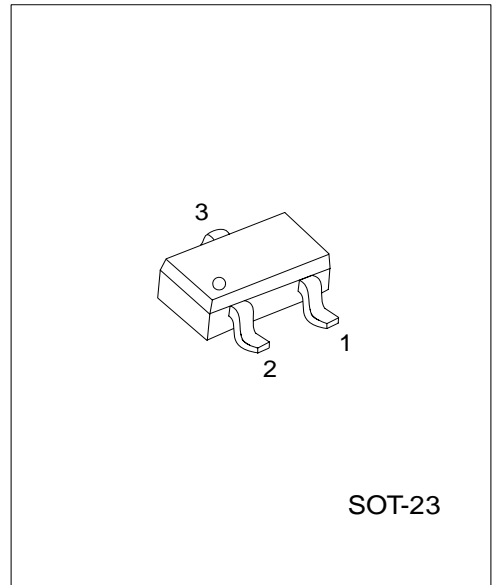
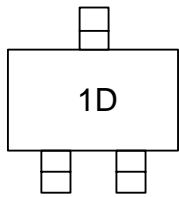
DESCRIPTION

The UTC **MMBTA42** are high voltage transistors, designed for telephone switch and high voltage switch.

FEATURES

- *Collector-Emitter voltage: $V_{CE0}=300V$
- *High current gain
- *Power Dissipation: $P_{D(max)}=350mW$

MARKING



SOT-23

* Pb-free plating product number: MMBTA42L

PIN CONFIGURATION

PIN NO.	PIN NAME
1	Emitter
2	Base
3	Collector

ORDERING INFORMATION

Order Number		Package	Packing
Normal	Lead free		
MMBTA42-AE3-R	MMBTA42L-AE3-R	SOT-23	Tape Reel

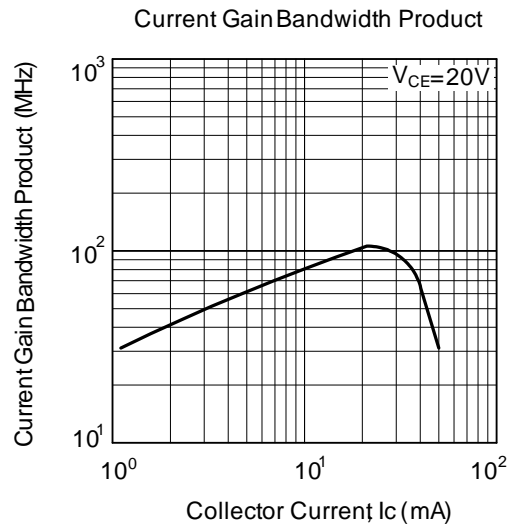
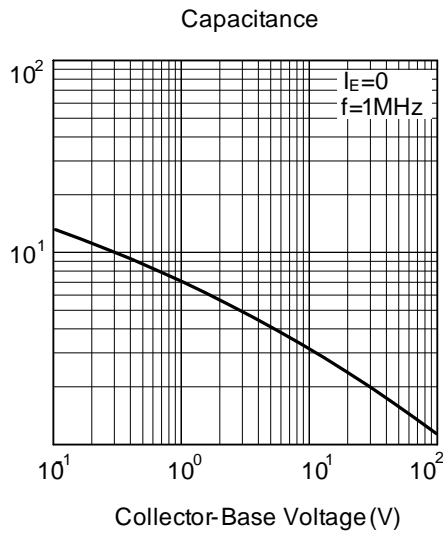
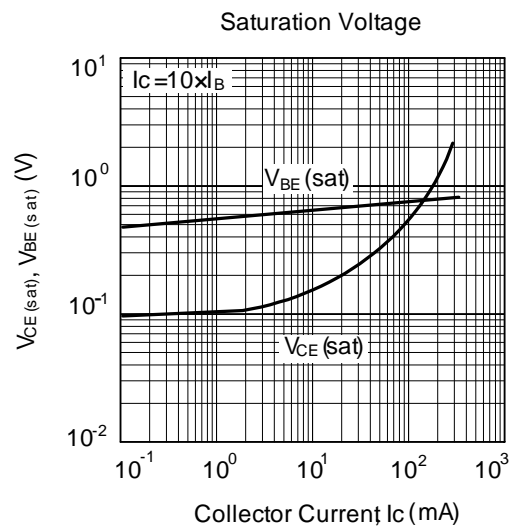
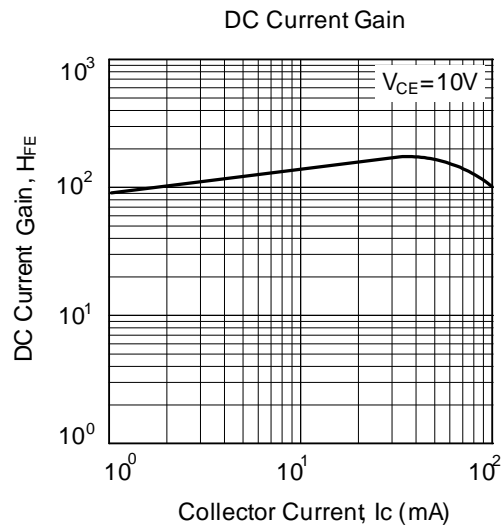
■ ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	300	V
Collector-Emitter Voltage	V_{CEO}	300	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_c	500	mA
Power Dissipation	P_D	350	mW
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 ~ +150	$^\circ\text{C}$

■ 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}	$I_E=100\mu\text{A}$, $I_c=0$	6			V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_c=20\text{mA}$, $I_B=2\text{mA}$			0.2	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_c=20\text{mA}$, $I_B=2\text{mA}$			0.90	V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=200\text{V}$, $I_E=0$			100	nA
Emitter Cut-Off Current	I_{EBO}	$V_{BE}=6\text{V}$, $I_c=0$			100	nA
DC Current Gain(note)	h_{FE}	$V_{CE}=10\text{V}$, $I_c=1\text{mA}$	80		300	
		$V_{CE}=10\text{V}$, $I_c=10\text{mA}$	80			
		$V_{CE}=10\text{V}$, $I_c=30\text{mA}$	80			
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}	$V_{CB}=20\text{V}$, $I_E=0$, $f=1\text{MHz}$			3	pF

■ TYPICAL CHARACTERISTICS



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