



# MMBTA42

## NPN EPITAXIAL SILICON TRANSISTOR

### HIGH VOLTAGE TRANSISTOR

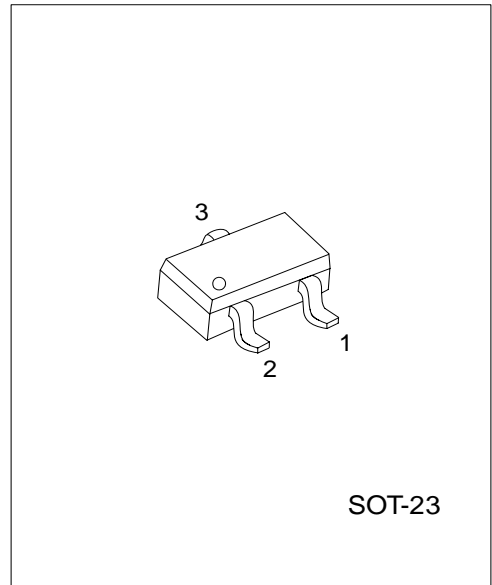
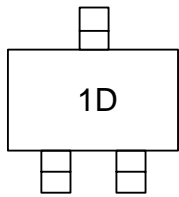
#### DESCRIPTION

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

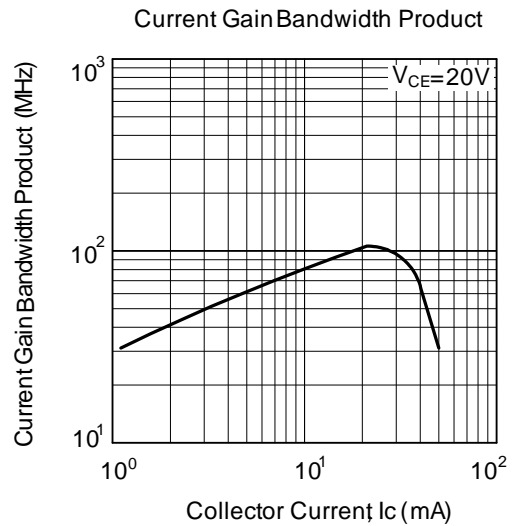
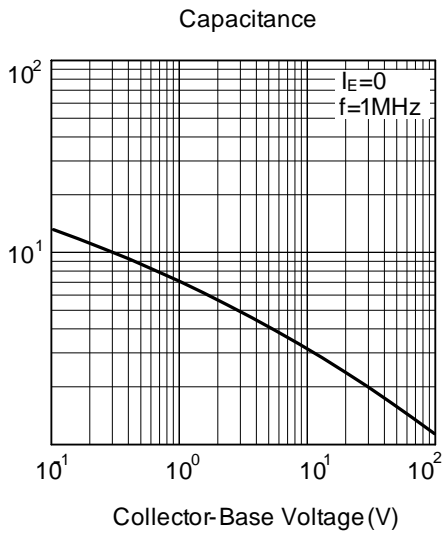
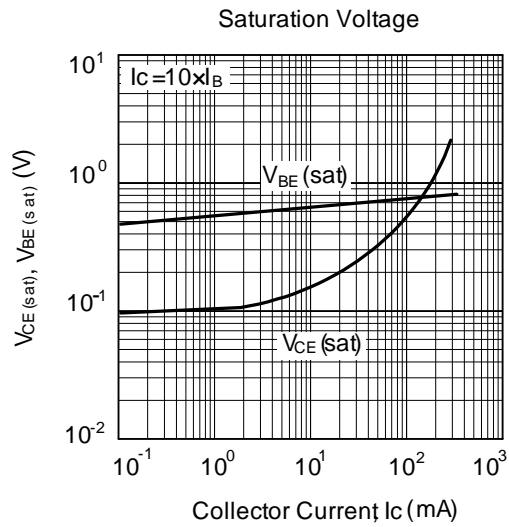
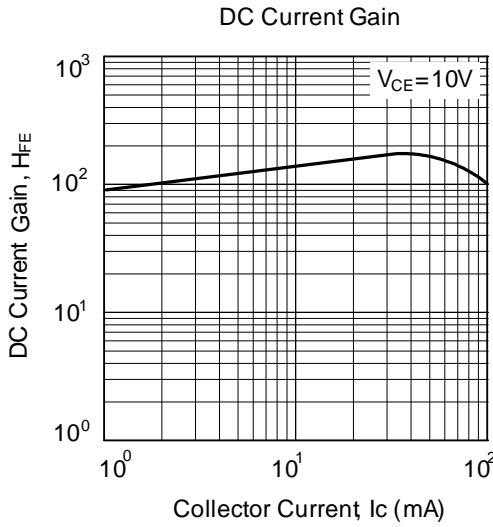
■ ABSOLUTE MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ )

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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