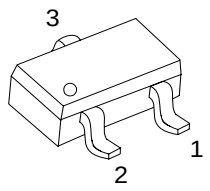
UNISONIC TECHNOLOGIES CO.,LTD.

MMBTA42

NPN EPITAXIAL SILICON TRANSISTOR

HIGH VOLTAGE TRANSISTOR



SOT-23

* Pb-free plating product number: MMBTA42L

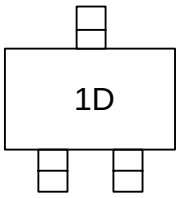
■ DESCRIPTION

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

■ FEATURES

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

■ MARKING



■ 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°C)

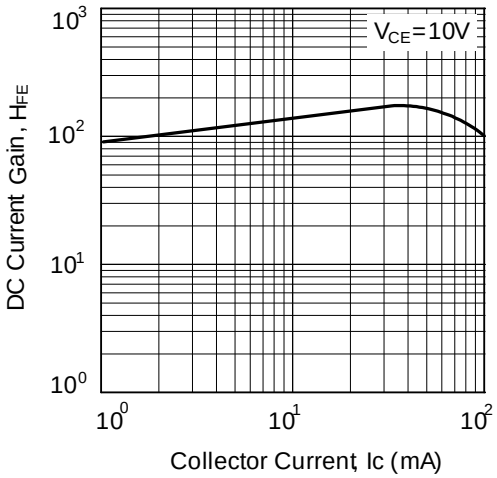
PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	300	V
Collector-Emitter Voltage	V_{CEO}	300	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	Ic	500	mA
Power Dissipation	P_D	350	mW
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-40 ~ +150	°C

■ ELECTRICAL CHARACTERISTICS (T_J =25°C, unless otherwise specified)

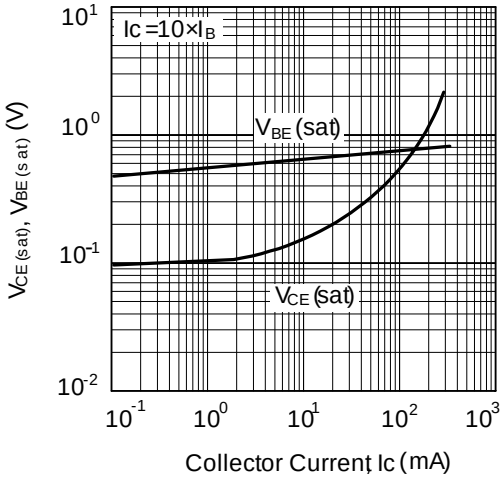
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	Ic=100μA, I_E=0	300			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	Ic=1mA, I_B=0	300			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=100μA, Ic=0	6			V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	Ic=20mA, I_B=2mA			0.2	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	Ic=20mA, I_B=2mA			0.90	V
Collector Cut-Off Current	I_{CBO}	V_{CB}=200V, I_E=0			100	nA
Emitter Cut-Off Current	I_{EBO}	V_{BE}=6V, Ic=0			100	nA
DC Current Gain(note)	h_{FE}	V_{CE}=10V, Ic=1mA V_{CE}=10V, Ic=10mA V_{CE}=10V, Ic=30mA	80 80 80		300	
Current Gain Bandwidth Product	f_T	V_{CE}=20V, Ic=10mA, f=100MHz	50			MHz
Collector Base Capacitance	C_{cb}	V_{CB}=20V, I_E=0, f=1MHz			3	pF

■ TYPICAL CHARACTERISTICS

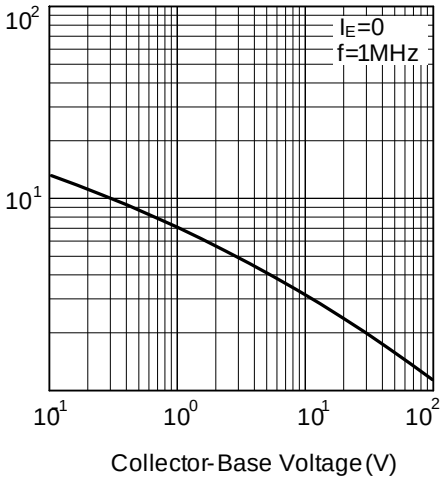
DC Current Gain



Saturation Voltage



Capacitance



Current Gain Bandwidth Product