



MMBTA42

NPN SILICON TRANSISTOR

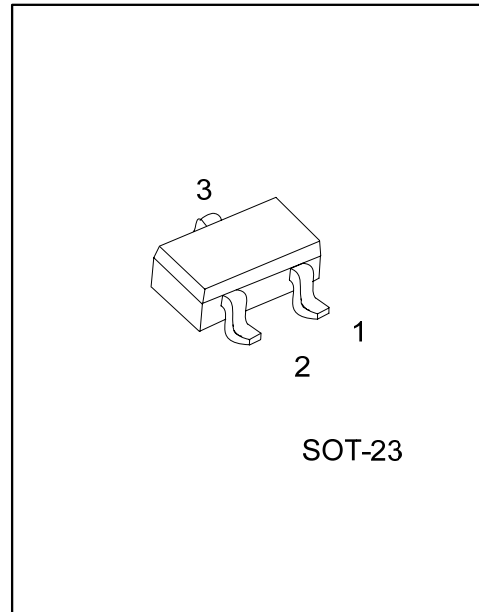
HIGH VOLTAGE TRANSISTOR

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
- * Collector Dissipation: $P_{c(max)}=350mW$



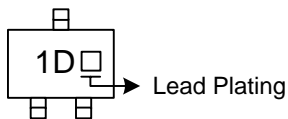
* Pb-free plating product number: MMBTA42L

ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
MMBTA42-AE3-R	MMBTA42L-AE3-R	SOT-23	E	B	C	Tape Reel

<p>MMBTA42L-AE3-R</p> <p>(1) Packing Type (2) Package Type (3) Lead Plating</p>	<p>(1) R: Tape Reel (2) AE3: SOT-23 (3) L: Lead Free Plating, Blank: Pb/Sn</p>
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MARKING



■ ABSOLUTE MAXIMUM RATINGS (Ta=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 Dissipation (T _A =25°C)	P _C	350	mW
Collector Current	I _C	500	mA
Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

Note Absolute maximum ratings are those values beyond which the device could be permanently damaged.

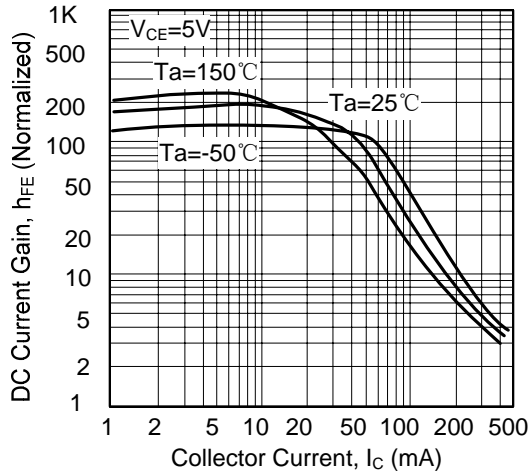
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

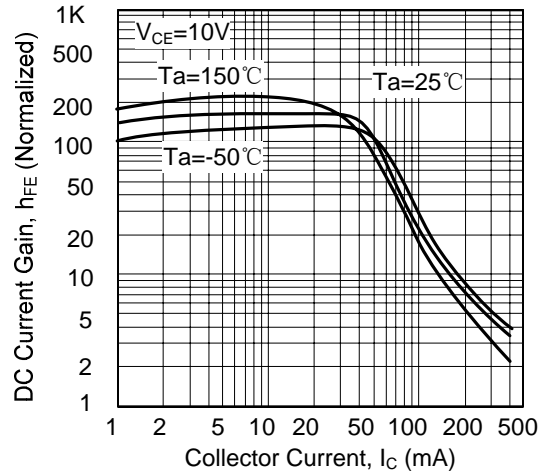
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV _{CBO}	I _C =100μA, I _E =0	300			V
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C =1mA, I _B =0	300			V
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E =100μA, I _C =0	6			V
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =20mA, I _B =2mA			0.2	V
Base-Emitter Saturation Voltage	V _{BE(SAT)}	I _C =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, I _C =0			100	nA
DC Current Gain	h _{FE}	V _{CE} =10V, I _C =1mA	80		300	
		V _{CE} =10V, I _C =10mA	80			
		V _{CE} =10V, I _C =30mA	80			
Current Gain Bandwidth Product	f _T	V _{CE} =20V, I _C =10mA, f=100MHz	50			MHz
Collector Base Capacitance	C _{cb}	V _{CB} =20V, I _E =0, f=1MHz			3	pF

TYPICAL CHARACTERISTICS

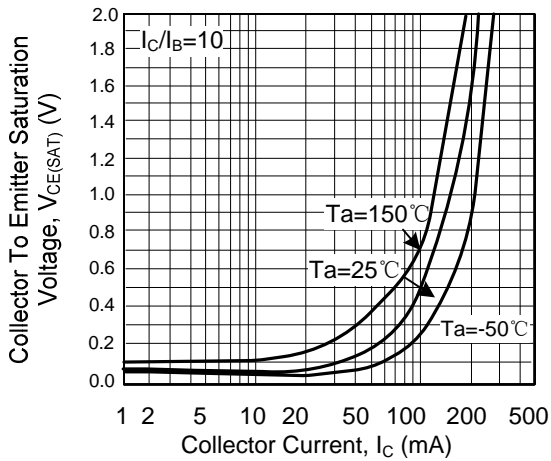
DC Current Gain vs. Output Current



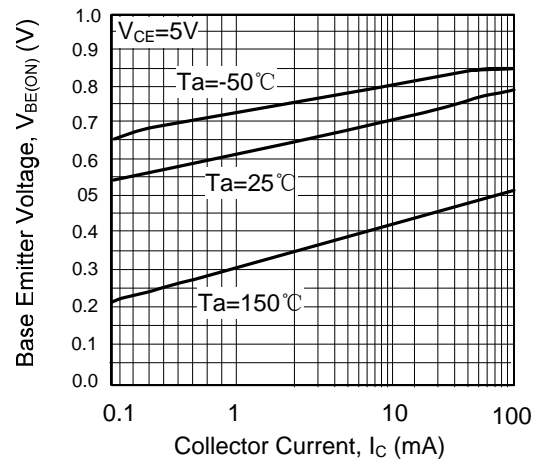
DC Current Gain vs. Output Current



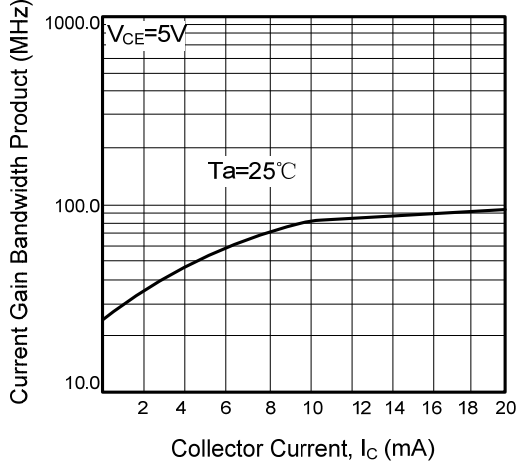
Collector Emitter Saturation vs. Collector Current



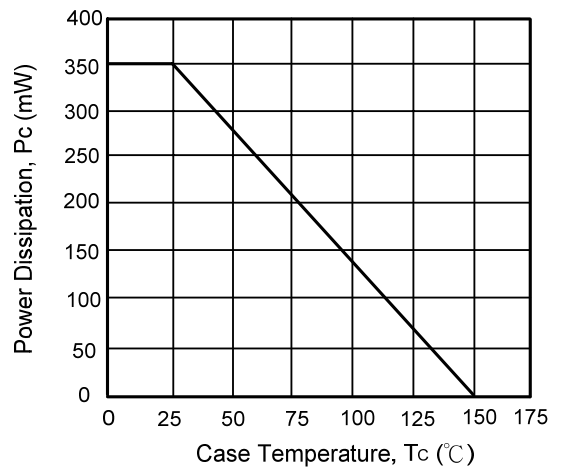
Collector Emitter Saturation vs. Collector Current



Current Gain Bandwidth Product



Power Derating
Power Dissipation vs. Case Temperature



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