



MMBTA42

NPN SILICON TRANSISTOR

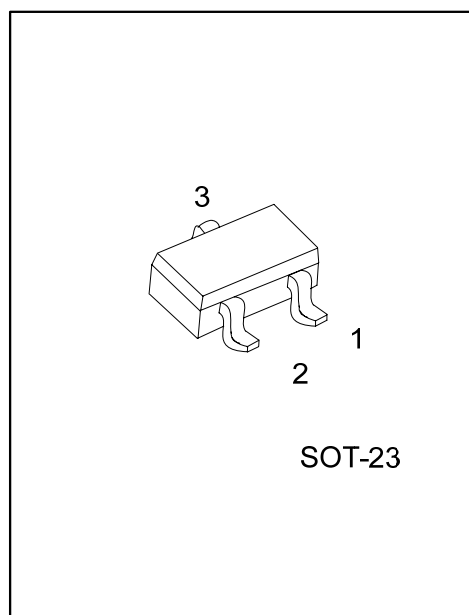
HIGH VOLTAGE TRANSISTOR

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: $P_{C(max)}=350mW$



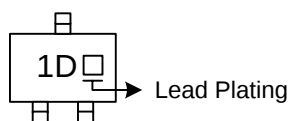
* Pb-free plating product number: MMBTA42L

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

MMBTA42L-AE3-R	(1)Packing Type (2)Package Type (3)Lead Plating	(1) R: Tape Reel (2) AE3: SOT-23 (3) L: Lead Free Plating, Blank: Pb/Sn
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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 (Ta=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.

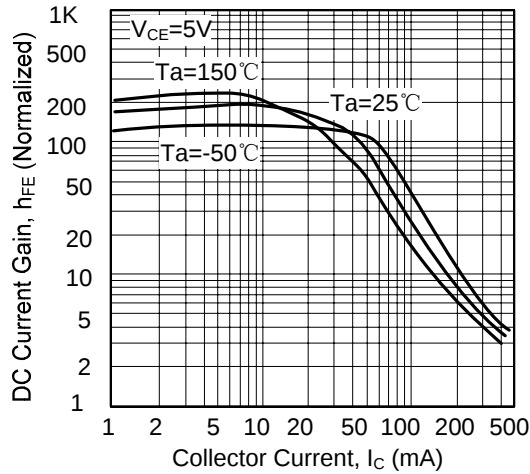
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

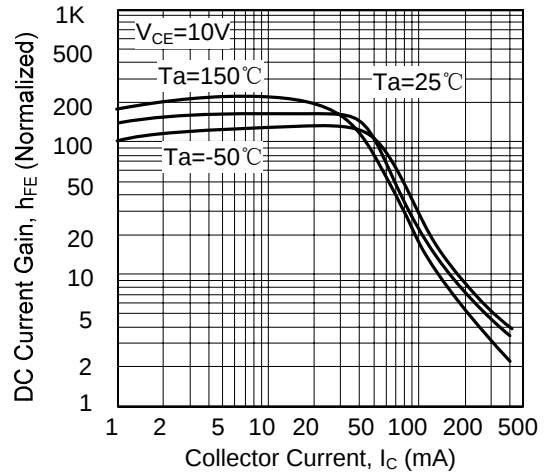
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu A, I_E=0$	300			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=1mA, I_B=0$	300			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu A, I_C=0$	6			V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=20mA, I_B=2mA$			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			
		$V_{CE}=10V, I_C=10mA$	80		300	
		$V_{CE}=10V, I_C=30mA$	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

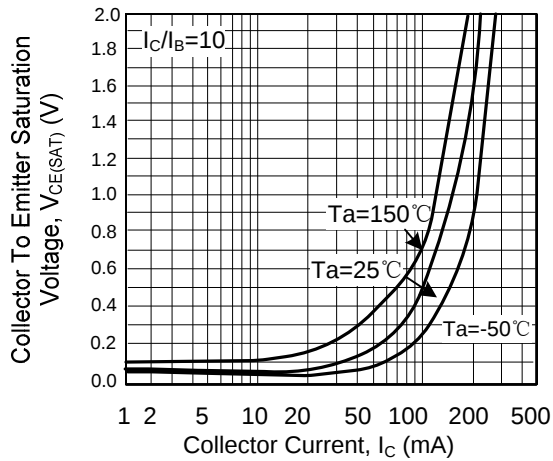
DC Current Gain vs. Output Current



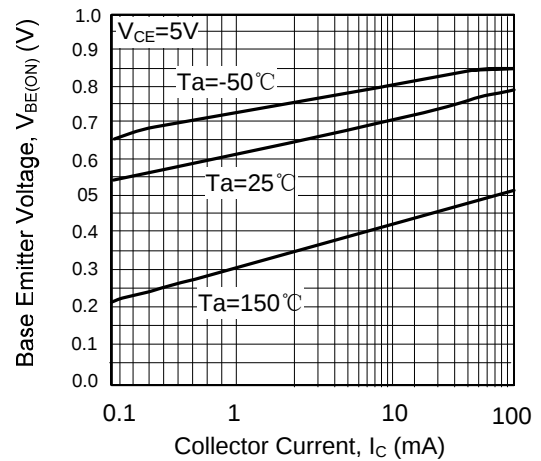
DC Current Gain vs. Output Current



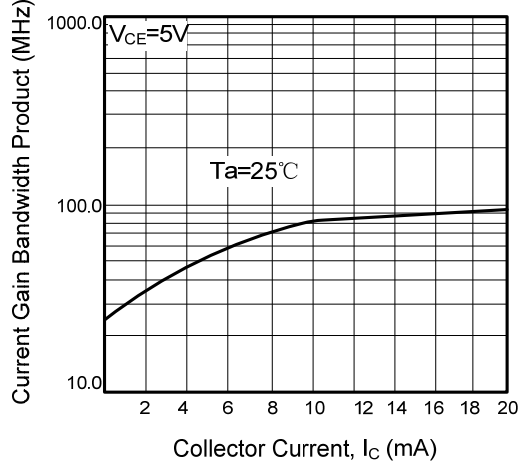
Collector Emitter Saturation vs. Collector Current



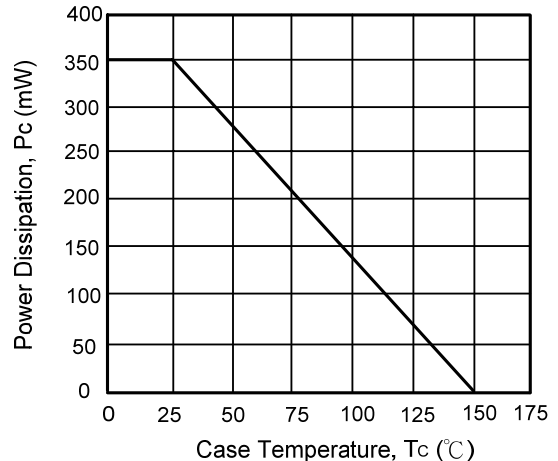
Collector Emitter Saturation vs. Collector Current



Current Gain Bandwidth Product



Power Derating
Power Dissipation vs. Case Temperature



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