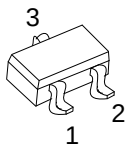
MMBTA42/43

NPN SILICON TRANSISTOR

HIGH VOLTAGE TRANSISTOR



SOT-23
(JEDEC TO-236)

■ DESCRIPTION

The UTC **MMBTA42/43** are high voltage transistors, designed for telephone switch and high voltage switch.

■ FEATURES

* Collector-Emitter voltage: V_{CEO}=300V(MMBTA42)
* Collector-Emitter voltage: V_{CEO}=200V(MMBTA43)
* High current gain
* Collector Dissipation: $P_{C(max)}$ =350mW

■ ORDERING INFORMATION

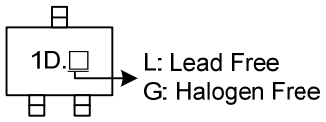
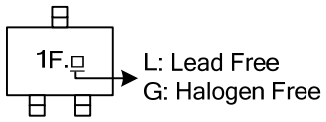
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MMBTA42L-AE3-R	MMBTA42G-AE3-R	SOT-23	B	E	C	Tape Reel
MMBTA43L-AE3-R	MMBTA43G-AE3-R	SOT-23	B	E	C	Tape Reel

Note: Pin Assignment: B: Base E: Emitter C: Collector

MMBTA42G-AE3-R

(1)Packing Type	(1) R: Tape Reel
(2)Package Type	(2) AE3: SOT-23
(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

MMBTA42	MMBTA43
	

■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage	MMBTA42	V_{CBO}	300	V
	MMBTA43		200	
Collector-Emitter Voltage	MMBTA42	V_{CEO}	300	V
	MMBTA43		200	
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	MMBTA42	BV_{CBO}	I_C=100μA, I_E=0	300			V
	MMBTA43			200			
Collector-Emitter Breakdown Voltage	MMBTA42	BV_{CEO}	I_C =1mA, I_B=0	300			V
	MMBTA43			200			
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	MMBTA42	I_{CBO}	V_{CB}=200V, I_E=0			100	nA
	MMBTA43		V_{CB}=160V, I_E=0			100	
Emitter Cut-Off Current	MMBTA42	I_{EBO}	V_{EB}=6V, I_C =0			100	nA
	MMBTA43		V_{EB}=4V, I_C =0			100	
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	MMBTA42	C_{cb}	V_{CB}=20V, I_E=0, f=1MHz			3	pF
	MMBTA43					4	

■ TYPICAL CHARACTERISTICS