



MMBTA13

NPN EPITAXIAL SILICON TRANSISTOR

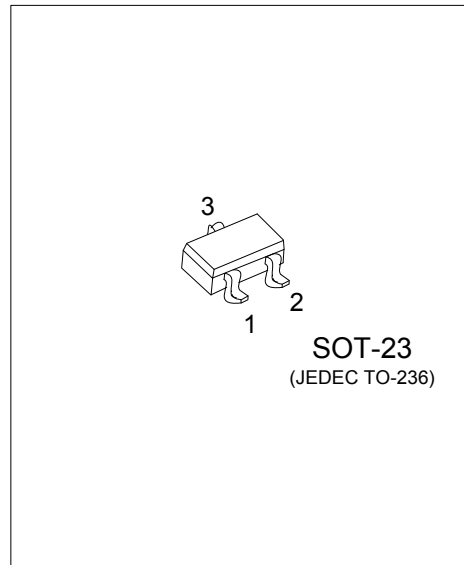
DARLINGTON TRANSISTOR

DESCRIPTION

The UTC **MMBTA13** is a Darlington transistor.

FEATURES

- * Collector-Emitter Voltage: $V_{CES} = 30V$
- * Collector Dissipation: $P_{C(MAS)} = 350 \text{ mW}$



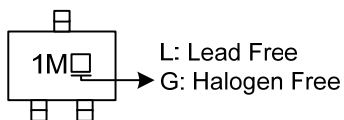
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MMBTA13L-AE3-R	MMBTA13G-AE3-R	SOT-23	B	E	C	Tape Reel

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

MMBTA13G-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



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■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CES}	30	V
Emitter-Base Voltage	V_{EBO}	10	V
Collector Dissipation	P_C	350	mW
Collector Current	I_C	500	mA
Junction Temperature	T_J	+150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

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 ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Breakdown Voltage	BV_{CES}	$I_C=100\mu\text{A}$, $I_B=0$	30			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=30\text{V}$, $I_E=0$			100	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=10\text{V}$, $I_C=0$			100	nA
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}$, $I_C=100\text{mA}$	10000			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=100\text{mA}$, $I_B=0.1\text{mA}$			1.5	V
Base-Emitter on Voltage	$V_{BE(ON)}$	$V_{CE}=5\text{V}$, $I_C=100\text{mA}$			2.0	V
Current Gain Bandwidth Product	f_T	$V_{CE}=5\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$	125			MHz

Note: Pulse test: Pulse Width<300 μs , Duty Cycle=2%

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