



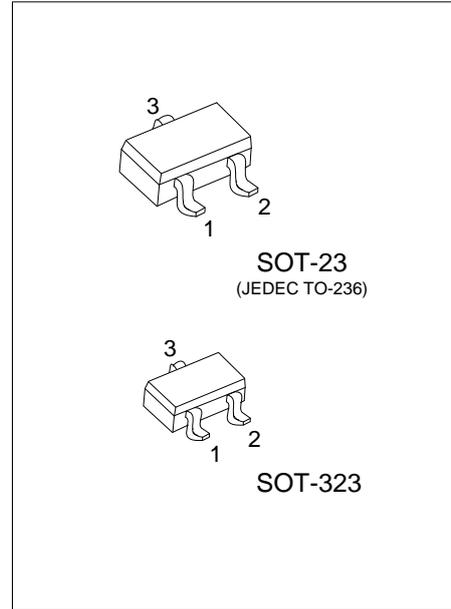
## MMBT4403-Q

PNP SILICON TRANSISTOR

### PNP GENERAL PURPOSE AMPLIFIER

#### DESCRIPTION

The UTC **MMBT4403-Q** is designed for use as a general purpose amplifier and switch requiring collector currents up to 500mA.



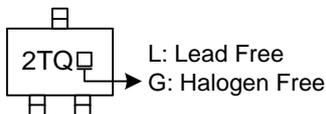
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MMBT4403L-Q-AE3-R	MMBT4403G-Q-AE3-R	SOT-23	B	E	C	Tape Reel
MMBT4403L-Q-AL3-R	MMBT4403G-Q-AL3-R	SOT-323	B	E	C	Tape Reel

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

<p>MMBT4403G-Q-AE3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) AE3: SOT-23, AL3: SOT-323</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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#### MARKING



# MMBT4403-Q

## PNP SILICON TRANSISTOR

### ■ ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	-40	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-40	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current-Continuous	I <sub>C</sub>	-600	mA
Total Device Dissipation	P <sub>C</sub>	350	mW
Derate above 25°C		2.8	mW/°C
Junction Temperature	T <sub>J</sub>	+150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +150	°C

- Notes: 1. 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.  
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### ■ THERMAL DATA (T<sub>A</sub>=25°C, unless otherwise specified)

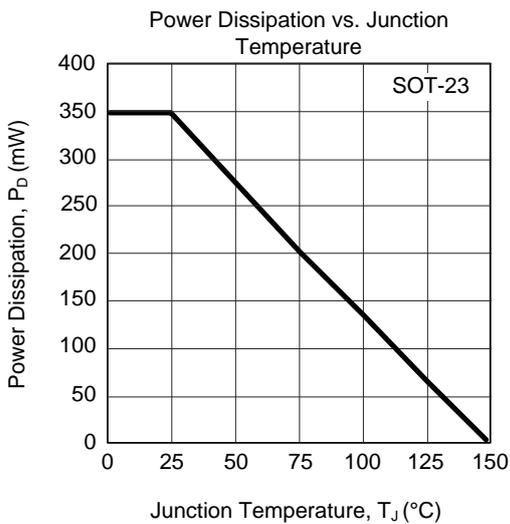
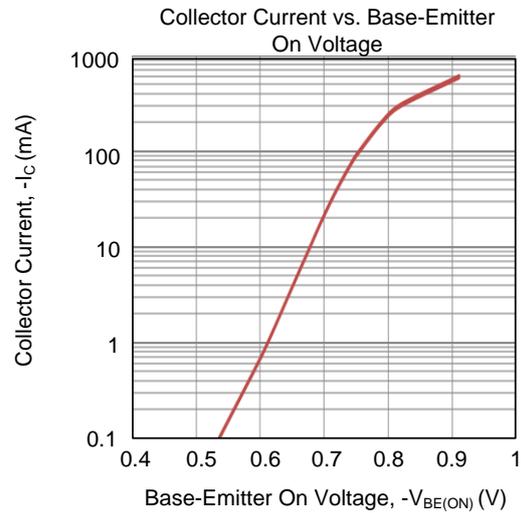
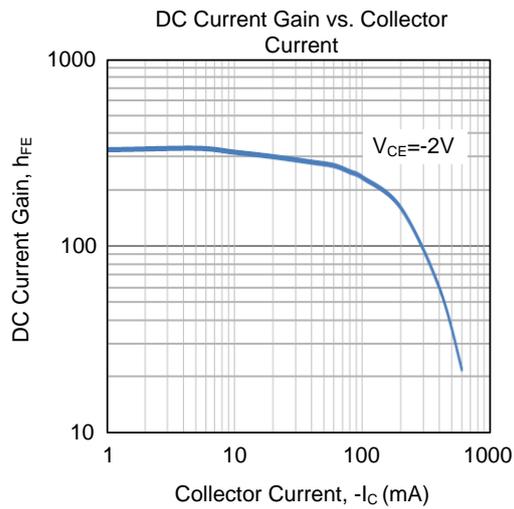
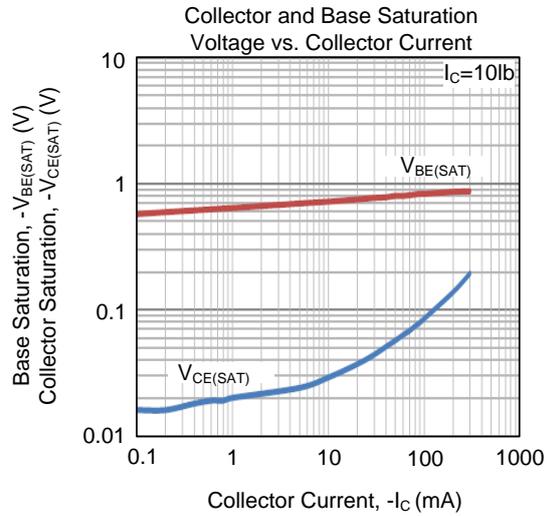
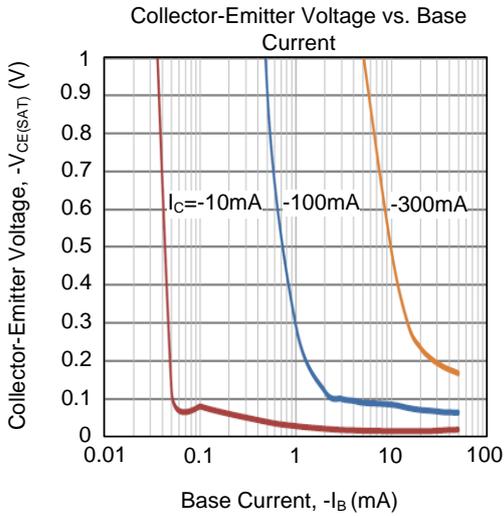
CHARACTERISTIC	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ <sub>JA</sub>	357	°C /W

### ■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
<b>OFF CHARACTERISTICS</b>						
Collector-Emitter Breakdown Voltage (Note)	BV <sub>CEO</sub>	I <sub>C</sub> =-1mA, I <sub>B</sub> =0	-40			V
Collector-Base Breakdown Voltage	BV <sub>CBO</sub>	I <sub>C</sub> =-0.1mA, I <sub>E</sub> =0	-40			V
Emitter-Base Breakdown Voltage	BV <sub>EBO</sub>	I <sub>E</sub> =-0.1mA, I <sub>C</sub> =0	-5			V
Collector-Base Cutoff Current	I <sub>CBO</sub>	V <sub>CE</sub> =-40V, I <sub>E</sub> =0			-0.1	μA
Collector-Emitter Cutoff Current	I <sub>CEO</sub>	V <sub>CE</sub> =-40V, I <sub>B</sub> =0			-0.1	μA
Emitter-Base Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>C</sub> =0			-0.1	μA
<b>ON CHARACTERISTICS*</b>						
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-0.1mA	30			
	h <sub>FE2</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-1mA	60			
	h <sub>FE3</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-10mA	100			
	h <sub>FE4</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-150mA (Note)	100		300	
	h <sub>FE5</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-500mA (Note)	20			
Collector-Emitter Saturation Voltage	V <sub>CE(SAT1)</sub>	I <sub>C</sub> =-150mA, I <sub>B</sub> =-15mA			-0.4	V
	V <sub>CE(SAT2)</sub>	I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA			-0.75	
Base-Emitter Saturation Voltage	V <sub>BE(SAT1)</sub>	I <sub>C</sub> =-150mA, I <sub>B</sub> =-15mA(Note)	-0.75		-0.95	V
	V <sub>BE(SAT2)</sub>	I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA			-1.3	

Note: Pulse test: Pulse Width≤300μs, Duty Cycles≤2%.

## TYPICAL CHARACTERISTICS



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