

**MMBT5089 NPN EPITAXIAL SILICON TRANSISTOR**

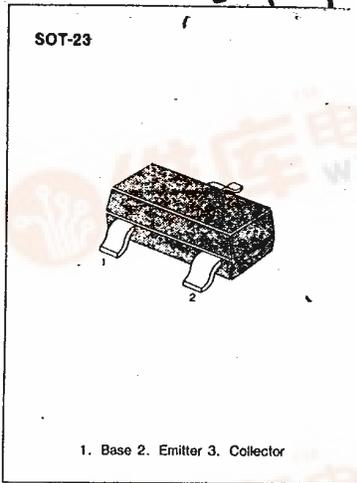
T-29-19

**LOW NOISE TRANSISTOR**

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	30	V
Collector-Emitter Voltage	V <sub>CE0</sub>	25	V
Emitter-Base Voltage	V <sub>EB0</sub>	4.5	V
Collector Current	I <sub>c</sub>	50	mA
Collector Dissipation	P <sub>c</sub>	350	mW
Storage Temperature	T <sub>stg</sub>	150	°C

• Refer to MMBT5088 for graphs



**ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Test Condition	Min	Max	Unit
Collector-Base Breakdown Voltage	BV <sub>CB0</sub>	I <sub>c</sub> = 100μA, I <sub>E</sub> = 0	30		V
Collector-Emitter Breakdown Voltage	BV <sub>CE0</sub>	I <sub>c</sub> = 1.0mA, I <sub>B</sub> = 0	25		V
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> = 15V, I <sub>E</sub> = 0		50	nA
Emitter Cutoff Current	I <sub>EB0</sub>	V <sub>BE</sub> = 4.5V, I <sub>C</sub> = 0		100	nA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 5V, I <sub>c</sub> = 100μA	400	1200	
		V <sub>CE</sub> = 5V, I <sub>c</sub> = 1mA	450		
		V <sub>CE</sub> = 5V, I <sub>c</sub> = 10mA	400		
Collector-Emitter Saturation Voltage	V <sub>CE (sat)</sub>	I <sub>c</sub> = 10mA, I <sub>B</sub> = 1.0mA		0.5	V
Base-Emitter Saturation Voltage	V <sub>BE (sat)</sub>	I <sub>c</sub> = 10mA, I <sub>B</sub> = 1.0mA		0.8	V
Current Gain-Bandwidth Product	f <sub>T</sub>	I <sub>c</sub> = 500μA, V <sub>CE</sub> = 5V f = 20MHz	50		MHz
Collector Base Capacitance	C <sub>cb</sub>	V <sub>CB</sub> = 5.0V, I <sub>E</sub> = 0 f = 100kHz		4	pF
Noise Figure	NF	I <sub>c</sub> = 100μA, V <sub>CE</sub> = 5V R <sub>S</sub> = 10 KΩ f = 10Hz to 15.7KHz		2	dB

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Marking

