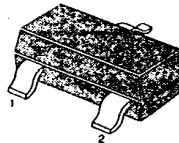


MMBT5089**NPN EPITAXIAL SILICON TRANSISTOR****LOW NOISE TRANSISTOR****ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	30	V
Collector-Emitter Voltage	V_{CE0}	25	V
Emitter-Base Voltage	V_{EB0}	4.5	V
Collector Current	I_C	50	mA
Collector Dissipation	P_C	350	mW
Storage Temperature	T_{stg}	150	$^\circ\text{C}$

• Refer to MMBT5088 for graphs

SOT-23



1. Base 2. Emitter 3. Collector

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min	Max	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C = 100\mu\text{A}$, $I_E = 0$	30		V
Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C = 1.0\text{mA}$, $I_B = 0$	25		V
Collector Cutoff Current	I_{CB0}	$V_{CB} = 15\text{V}$, $I_E = 0$		50	nA
Emitter Cutoff Current	I_{EB0}	$V_{BE} = 4.5\text{V}$, $I_C = 0$		100	nA
DC Current Gain	h_{FE}	$V_{CE} = 5\text{V}$, $I_C = 100\mu\text{A}$	400	1200	
		$V_{CE} = 5\text{V}$, $I_C = 1\text{mA}$	450		
		$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$	400		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}$, $I_B = 1.0\text{mA}$		0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10\text{mA}$, $I_B = 1.0\text{mA}$		0.8	V
Current Gain-Bandwidth Product	f_T	$I_C = 500\mu\text{A}$, $V_{CE} = 5\text{V}$ $f = 20\text{MHz}$	50		MHz
Collector Base Capacitance	C_{cb}	$V_{CB} = 5.0\text{V}$, $I_E = 0$ $f = 100\text{kHz}$		4	pF
Noise Figure	NF	$I_C = 100\mu\text{A}$, $V_{CE} = 5\text{V}$ $R_S = 10\text{K}\Omega$ $f = 10\text{Hz to } 15.7\text{KHz}$		2	dB

Marking

