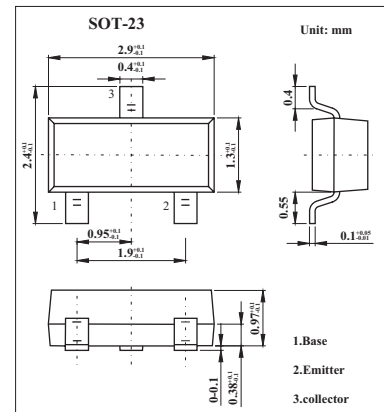


Small Signal Transistor

FMMT5089

■ Features

- Small signal transistor.

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	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
Power dissipation	P_{tot}	330	mW
Operating and storage temperature range	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}, I_B=0$	30			V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	$I_C=100\text{mA}, I_E=0^*$	25			V
Collector-base cut-off current	I_{CBO}	$V_{CB}=15\text{V}, I_E=0$			50	nA
Emitter-base current	I_{EBO}	$V_{EB(off)}=4.5\text{V}, I_C=0$			100	nA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.8	V
DC current gain	h_{FE}	$I_C=100\mu\text{A}, V_{CE}=5\text{V}$	400		1200	
Current-gain-bandwidth product	f_T	$I_C=500\text{mA}, V_{CE}=5\text{V}, f=20\text{MHz}$	50			MHz
Output capacitance	C_{obo}	$V_{CB}=5\text{V}, f=1\text{MHz}, I_E=0$			4	pF
Emitter-base capacitance	C_{ebo}	$V_{BE}=0.5\text{V}, f=1\text{MHz}, I_C=0$			10	pF
Noise figure	NF	$I_C=200\text{mA}, V_{CE}=5\text{V}, R_g=10\text{K}\Omega, f=10\text{Hz to } 15\text{KHz}$			2	dB
Small signal current transfer ratio	h_{fe}	$I_C=1\text{mA}, V_{CE}=5\text{V}, f=1\text{KHz}$	450		1800	

* Pulse test: $t_p \leq 300 \mu\text{s}$; $d \leq 0.02$.

■ Marking

Marking	1R
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