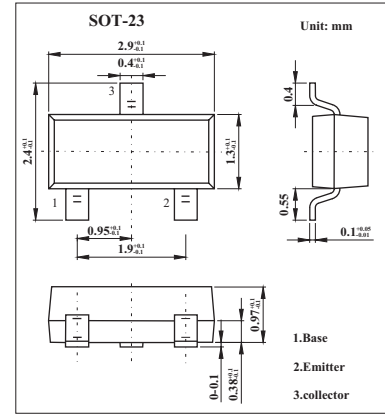


## Power High Performance Transistor

## FM589



### ■ Features

- Low equivalent on-resistance.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-50	V
Collector-emitter voltage	$V_{CEO}$	-30	V
Emitter-base voltage	$V_{EBO}$	-5	V
Peak collector current	$I_{CM}$	-2	A
Collector current	$I_C$	-1	A
Base current	$I_B$	-200	mA
Power dissipation	$P_{tot}$	500	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	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}$	-50			V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	$I_C = -10\text{mA}$	-30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu\text{A}$	-5			V
Collector cutoff current	$I_{CBO}$	$V_{CB} = -30\text{V}$			-100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4\text{V}$			-100	nA
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = -1\text{A}, I_B = -100\text{mA}$			-0.35	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C = -1\text{A}, I_B = -100\text{mA}$			-1.2	V
Base-emitter voltage *	$V_{BE(ON)}$	$I_C = -1\text{A}, V_{CE} = -2\text{V}$			-1.1	V
Static Forward Current TransferRatio	hFE	$I_C = -1\text{mA}, V_{CE} = -2\text{V}^*$	100			
		$I_C = -500\text{mA}, V_{CE} = -2\text{V}^*$	100		300	
		$I_C = -1\text{A}, V_{CE} = -2\text{V}^*$	80			
		$I_C = -2\text{A}, V_{CE} = -2\text{V}^*$	40			
Current-gain-bandwidth product	f <sub>T</sub>	$I_C = -100\text{mA}, V_{CE} = -5\text{V}, f = 100\text{MHz}$	100			MHz
Output capacitance	$C_{obo}$	$V_{CB} = -10\text{V}, f = 1\text{MHz}$			15	pF

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

### ■ Marking

Marking	589
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