

## High Voltage Transistor

## FM593

## ■ Features

- SOT23 PNP silicon planar

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	-120	V
Collector-emitter voltage	$V_{CE0}$	-100	V
Emitter-base voltage	$V_{EB0}$	-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	$^\circ\text{C}$

## FMMT593

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-100μA	-120			V
Collector-emitter breakdown voltage *	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-10mA	-100			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-100μA	-5			V
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> =-100V			-100	nA
Collector-Emitter Cut-Off Current	I <sub>CES</sub>	V <sub>CE</sub> =-100V			-100	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-4V			-100	nA
Collector-emitter saturation voltage *	V <sub>CE(sat)</sub>	I <sub>C</sub> =-250mA, I <sub>B</sub> =-25mA			-0.2	V
		I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA			-0.3	V
Base-emitter saturation voltage *	V <sub>BE(sat)</sub>	I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA			-1.1	V
Base-emitter voltage *	V <sub>BE(ON)</sub>	I <sub>C</sub> =-1mA, V <sub>CE</sub> =-5V			-1.0	V
Static Forward Current Transfer Ratio	h <sub>FE</sub>	I <sub>C</sub> =-1mA, V <sub>CE</sub> =-5V	100			
		I <sub>C</sub> =-250mA, V <sub>CE</sub> =-5V*	100			
		I <sub>C</sub> =-500mA, V <sub>CE</sub> =-5V*	100		300	
		I <sub>C</sub> =-1A, V <sub>CE</sub> =-5V,	50			
Current-gain-bandwidth product	f <sub>T</sub>	I <sub>C</sub> =-50mA, V <sub>CE</sub> =-10V, f=100MHz	50			MHz
Output capacitance	C <sub>obo</sub>	V <sub>CB</sub> =-10V, f=1MHz			5	pF

\* Pulse test: t<sub>p</sub> = 300 μs; d ≤ 0.02.

## ■ Marking

Marking	593
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