

# SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

## FMMT489

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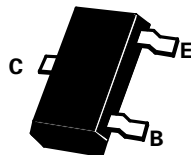


### FEATURES

\* Very low equivalent on-resistance;  $R_{CE(sat)}$  175m $\Omega$  at 1A

COMPLEMENTARY TYPE – FMMT589

PARTMARKING DETAIL – 489



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	50	V
Collector-Emitter Voltage	$V_{CEO}$	30	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Continuous Collector Current	$I_C$	1	A
Peak Pulse Current	$I_{CM}$	4	A
Base Current	$I_B$	200	mA
Power Dissipation at $T_{amb}=25^\circ\text{C}$	$P_{tot}$	500	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ ).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Breakdown Voltages	$V_{(BR)CBO}$	50		V	$I_C=100\mu\text{A}$
	$V_{CEO(sus)}$	30		V	$I_C=10\text{mA}^*$
	$V_{(BR)EBO}$	5		V	$I_E=100\mu\text{A}$
Collector Cut-Off Current	$I_{CBO}$		100	nA	$V_{CB}=30\text{V}$
	$I_{CES}$		100	nA	$V_{CES}=30\text{V}$
Emitter Cut-Off Current	$I_{EBO}$		100	nA	$V_{EB}=4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.3	V	$I_C=1\text{A}, I_B=100\text{mA}^*$
			0.6	V	$I_C=2\text{A}, I_B=200\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.1	V	$I_C=1\text{A}, I_B=100\text{mA}^*$
Base-Emitter Turn On Voltage	$V_{BE(on)}$		1.0	V	$I_C=1\text{A}, V_{CE}=2\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	100	300		$I_C=1\text{mA}, V_{CE}=2\text{V}^*$
		100			$I_C=1\text{A}, V_{CE}=2\text{V}^*$
		60			$I_C=2\text{A}, V_{CE}=2\text{V}^*$
		20			$I_C=4\text{A}, V_{CE}=2\text{V}^*$
Transition Frequency	$f_T$	150		MHz	$I_C=50\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$
Collector-Base Breakdown Voltage	$C_{obo}$		10	pF	$V_{CB}=10\text{V}, f=1\text{MHz}$

\*Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$   
For typical characteristics graphs see FMMT449 datasheet