

# SOT23 PNP SILICON PLANAR MEDIUM POWER TRANSISTORS

## FMMT549 FMMT549A

ISSUE 3 - OCTOBER 1995

### FEATURES

\* Low equivalent on-resistance;  $R_{CE(sat)}$  250m $\Omega$  at 1A

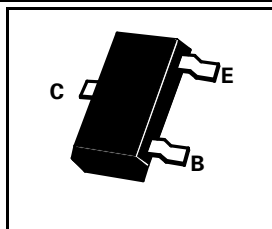
\* 1 Amp continuous current

COMPLEMENTARY TYPES – FMMT549 – FMMT449

FMMT549A – N/A

PARTMARKING DETAIL – FMMT549 – 549

FMMT549A – 59A



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-35	V
Collector-Emitter Voltage	$V_{CEO}$	-30	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Peak Pulse Current	$I_{CM}$	-2	A
Continuous Collector Current	$I_C$	-1	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 $T_{amb} = 25^\circ\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Breakdown Voltages	$V_{(BR)CBO}$	-35			V	$I_C = -100\mu\text{A}$
	$V_{(BR)CEO}$	-30			V	$I_C = -10\text{mA}^*$
	$V_{(BR)EBO}$	-5			V	$I_E = -100\mu\text{A}$
Cut-Off Currents	$I_{CBO}$			-0.1 -10	$\mu\text{A}$	$V_{CB} = -30\text{V}$ $V_{CB} = -30\text{V}, T_{amb} = 100^\circ\text{C}$
	$I_{EBO}$			-0.1	$\mu\text{A}$	$V_{EB} = -4\text{V}$
Saturation Voltages	$V_{CE(sat)}$		-0.25 -0.50	-0.50 -0.75	V	$I_C = -1\text{A}, I_B = -100\text{mA}^*$ $I_C = -2\text{A}, I_B = -200\text{mA}^*$
		FMMT549A		-0.30	V	$I_C = -100\text{mA}, I_B = -1\text{mA}^*$
	$V_{BE(sat)}$		-0.9	-1.25	V	$I_C = -1\text{A}, I_B = -100\text{mA}^*$
Base Emitter Turn-on Voltage	$V_{BE(on)}$		-0.85	-1	V	$I_C = -1\text{A}, V_{CE} = -2\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	70	200			$I_C = -50\text{mA}, V_{CE} = -2\text{V}^*$
		80	130			$I_C = -1\text{A}, V_{CE} = -2\text{V}^*$
		40	80			$I_C = -2\text{A}, V_{CE} = -2\text{V}^*$
	FMMT549	100	160	300		$I_C = -500\text{mA}, V_{CE} = -2\text{V}^*$
FMMT549A	150	200	500		$I_C = -500\text{mA}, V_{CE} = -2\text{V}^*$	
Transition Frequency	$f_T$	100			MHz	$I_C = -100\text{mA}, V_{CE} = -5\text{V}$ $f = 100\text{MHz}$
Output Capacitance	$C_{obo}$			25	pF	$V_{CB} = -10\text{V}, f = 1\text{MHz}$
Switching Times	$t_{on}$		50		ns	$I_C = -500\text{mA}, V_{CC} = -10\text{V}$
	$t_{off}$		300		ns	$I_{B1} = I_{B2} = -50\text{mA}$

\*Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$

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## TYPICAL CHARACTERISTICS

