

# SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

## FMMT491A

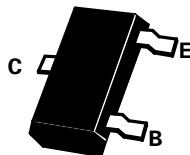
ISSUE 3 – OCTOBER 1995

### FEATURES

\* Very Low Equivalent Resistance,  $R_{CE(sat)}$  195m $\Omega$  at 1A

COMPLEMENTARY TYPE – FMMT591A

PARTMARKING DETAIL – 41A



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Continuous Collector Current	$I_C$	1	A
Peak Pulse Current	$I_{CM}$	2	A
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.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	40		V	$I_C=100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{CEO(sus)}$	40		V	$I_C=10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		V	$I_E=100\mu\text{A}$
Cut-Off Currents	$I_{CBO}, I_{CES}$		100	nA	$V_{CB}=30\text{V}, V_{CES}=30\text{V}$
Emitter Cut-Off Current	$I_{EBO}$		100	nA	$V_{EB}=4\text{V}$
Saturation Voltages	$V_{CE(sat)}$		0.3 0.5	V V	$I_C=500\text{mA}, I_B=50\text{mA}^*$ $I_C=1\text{A}, I_B=100\text{mA}^*$
	$V_{BE(sat)}$		1.1	V	$I_C=1\text{A}, I_B=100\text{mA}^*$
Base Emitter Turn On Voltage	$V_{BE(on)}$		1.0	V	$I_C=1\text{A}, V_{CE}=5\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	300 300 200 35	900		$I_C=1\text{mA}, V_{CE}=5\text{V}^*$ $I_C=500\text{mA}, V_{CE}=5\text{V}^*$ $I_C=1\text{A}, V_{CE}=5\text{V}^*$ $I_C=2\text{A}, V_{CE}=5\text{V}^*$
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  $\leq 2\%$   
Spice parameter data is available upon request for this device

# FMMT491A

## TYPICAL CHARACTERISTICS

