

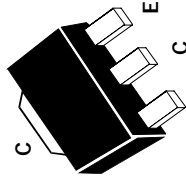
**SOT89 NPN SILICON PLANAR  
MEDIUM POWER TRANSISTOR**

ISSUE 3 - NOVEMBER 1995

**FCX493**

COMPLEMENTARY TYPE - FCX593

PARTMARKING DETAIL - N93



**ABSOLUTE MAXIMUM RATINGS.**

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CB0}$	120	V
Collector-Emitter Voltage	$V_{CE0}$	100	V
Emitter-Base Voltage	$V_{EB0}$	5	V
Continuous Collector Current	$I_C$	1	A
Peak Pulse Current	$I_{CM}$	2	A
Base Current	$I_B$	200	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	1	W
Operating and Storage Temperature Range	$T_j, T_{sig}$	-65 to +150	$^{\circ}C$

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

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Breakdown Voltages	$V_{(BR)CBO}$	120		V	$I_C=100\mu A$
	$V_{CE0(sus)}$	100		V	$I_C=10mA^*$
	$V_{(BR)EBO}$	5		V	$I_E=100\mu A$
Collector Cut-Off Currents	$I_{CBO}$		100	nA	$V_{CB}=100V$
	$I_{CES}$		100	nA	$V_{CES}=100V$
Emitter Cut-Off Current	$I_{EBO}$		100	nA	$V_{EB}=4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	0.3		V	$I_C=500mA, I_B=50mA$
		0.6		V	$I_C=1A, I_B=100mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	1.15		V	$I_C=1A, I_B=100mA$
			1.0	V	$I_C=1A, V_{CE}=10V$
Static Forward Current Transfer Ratio	$h_{FE}$	100			$I_C=1mA, V_{CE}=10V^*$
		100	300		$I_C=250mA, V_{CE}=10V^*$
		60	20		$I_C=500mA, V_{CE}=10V^*$
Transition Frequency	$f_T$	150		MHz	$I_C=50mA, V_{CE}=10V$
			10	pF	$f=100MHz$
Collector-Base Breakdown Voltage	$C_{ob0}$				$V_{CB}=10V, f=1MHz$

\*Measured under pulsed conditions. Pulse width=300 $\mu s$ . Duty cycle  $\leq 2\%$ . For typical Characteristics graphs see FMMT493 datasheet.