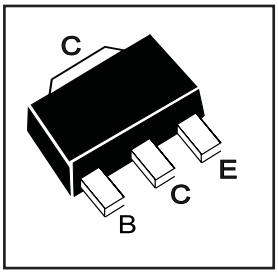
SOT89 PNP SILICON POWER (SWITCHING) TRANSISTOR

FCX717

ISSSUE 1 - MAY 1999

FEATURES

* **2W POWER DISSIPATION**
* 10A Peak Pulse Current
* Excellent H_{FE} Characteristics up to 10 Amps
* Extremely Low Saturation Voltage E.g. 12mv Typ.
* Extremely Low Equivalent On-resistance; **$R_{CE(sat)}$ 77mΩ at 3A**



Partmarking Detail - 717

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	-12	V
Collector-Emitter Voltage	V_{CEO}	-12	V
Emitter-Base Voltage	V_{EBO}	-5	V
Peak Pulse Current **	I_{CM}	-10	A
Continuous Collector Current	I_C	-3	A
Base Current	I_B	-500	mA
Power Dissipation at T_{amb}=25°C	P_{tot}	1 † 2 ‡	W W
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

† recommended P_{tot} calculated using FR4 measuring 15x15x0.6mm

‡ Maximum power dissipation is calculated assuming that the device is mounted on FR4 substrate measuring 40x40x0.6mm and using comparable measurement methods adopted by other suppliers.

**Measured under pulsed conditions. Pulse width=300µs. Duty cycle ® 2%

Spice parameter data is available upon request for these devices

Refer to the handling instructions for soldering surface mount components.

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ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-12	-35		V	I_C=-100μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-12	-25		V	I_C=-10mA*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-8.5		V	I_E=-100μA
Collector Cut-Off Current	I_{CBO}			-100	nA	V_{CB}=-10V
Emitter Cut-Off Current	I_{EBO}			-100	nA	V_{EB}=-4V
Collector Emitter Cut-Off Current	I_{CES}			-100	nA	V_{CES}=-10V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-12 -110 -230	-20 -150 -320	mV mV mV	I_C=-0.1A, I_B=-10mA* I_C=-1A, I_B=-10mA* I_C=-3A, I_B=-50mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.92	-1.05	V	I_C=-3A, I_B=-50mA*
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.85	-1.0	V	I_C=-3A, V_{CE}=-2V*
Static Forward Current Transfer Ratio	h_{FE}	300 300 160 60 45	475 450 240 100 70			I_C=-10mA, V_{CE}=-2V* I_C=-0.1A, V_{CE}=-2V* I_C=-3A, V_{CE}=-2V* I_C=-8A, V_{CE}=-2V* I_C=-10A, V_{CE}=-2V*
Transition Frequency	f_T	80	110		MHz	I_C=-50mA, V_{CE}=-10V f=100MHz
Output Capacitance	C_{obo}		21	30	pF	V_{CB}=-10V, f=1MHz
Turn-On Time	$t_{(on)}$		70		ns	V_{CC}=-6V, I_C=-2A I_{B1}=I_{B2}=50mA
Turn-Off Time	$t_{(off)}$		130		ns	

*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%