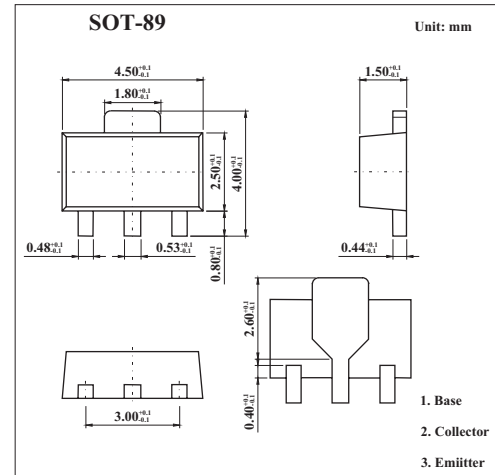# Switching Transistor

FCX617

■ Features

- 2W power dissipation.
- 12A peak pulse current.
- Excellent H_{FE} characteristics up to 12 amps.
- Extremely low saturation voltage E.g. 8mv Typ.
- Extremely low equivalent on-resistance.
- $R_{CE(sat)}$ 50mΩ at 3A.

SOT-89   Unit: mm

1. Base
2. Collector
3. Emiitter

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	15	V
Collector-emitter voltage	V_{CEO}	15	V
Emitter-base voltage	V_{EBO}	5	V
Peak pulse current	I_C	3	A
Continuous collector current	I_{CM}	12	A
Base current	I_B	500	mA
Power dissipation	P_{tot}	1	W
Operating and storage temperature range	T_j, T_{stg}	-55 to +150	℃

FCX617

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	V(BR)CBO	IC=100µA	15			V
Collector-emitter breakdown voltage *	V(BR)CEO	IC=10mA	15			V
Emitter-base breakdown voltage	V(BR)EBO	IE=100µA	5			V
Collector Cut-Off Current	ICBO	VCB=10V		0.3	100	nA
Collector Emitter Cut-Off Current	ICES	VCE=10V		0.3	100	nA
Emitter Cut-Off Current	IEBO	VEB=4V		0.3	100	nA
Collector-emitter saturation voltage *	VCE(sat)	IC=0.1A, IB=10mA IC=1A, IB=10mA IC=3A, IB=50mA IC=4A, IB=50mA IC=5A, IB=50mA		8 70 150	14 100 230 300 400	mV
Base-emitter saturation voltage *	VBE(sat)	IC=3A, IB=50mA		0.89	1.0	V
Base-emitter ON voltage *	VBE(on)	IC=3A, VCE=2V		0.82	1.0	V
Static Forward Current Transfer Ratio*	hFE	IC=10mA, VCE=2V IC=200mA,VCE=2V IC=3A,VCE=2V IC=5A,VCE=2V IC=12A,VCE=2V	200 300 200 150	415 450 320 240 80		
Transitional frequency	fT	IC=50mA, VCE=10V f=50MHz	80	120		MHz
Output capacitance	Cobo	VCB=10V, f=1MHz		30	40	pF
Turn-on time	t(on)	IC=3A, VCC=10V		120		ns
Turn-off time	t(off)	IB1=IB2=50mA		160		ns

* Pulse test: tp = 300 µs; d ≤ 0.02.

■ Marking

Marking	617