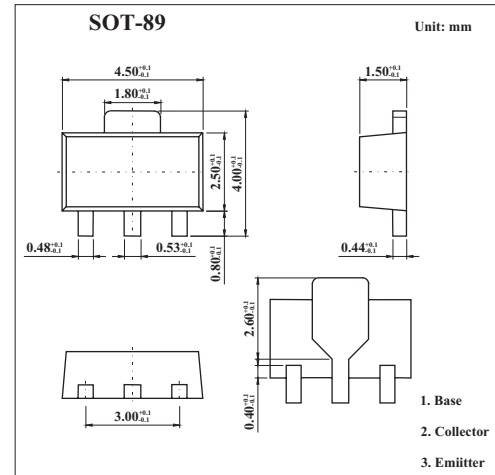


## Switching Transistor

## FCX617

## ■ Features

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

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	15	V
Collector-emitter voltage	$V_{CE0}$	15	V
Emitter-base voltage	$V_{EB0}$	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	$^\circ\text{C}$

## FCX617

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A$	15			V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	$I_C=10mA$	15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A$	5			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=10V$		0.3	100	nA
Collector Emitter Cut-Off Current	$I_{CES}$	$V_{CE}=10V$		0.3	100	nA
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=4V$		0.3	100	nA
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C=0.1A, I_B=10mA$ $I_C=1A, I_B=10mA$ $I_C=3A, I_B=50mA$ $I_C=4A, I_B=50mA$ $I_C=5A, I_B=50mA$		8 70 150	14 100 230 300 400	mV
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C=3A, I_B=50mA$		0.89	1.0	V
Base-emitter ON voltage *	$V_{BE(on)}$	$I_C=3A, V_{CE}=2V$		0.82	1.0	V
Static Forward Current Transfer Ratio*	$h_{FE}$	$I_C=10mA, V_{CE}=2V$ $I_C=200mA, V_{CE}=2V$ $I_C=3A, V_{CE}=2V$ $I_C=5A, V_{CE}=2V$ $I_C=12A, V_{CE}=2V$	200 300 200 150	415 450 320 240 80		
Transitional frequency	$f_T$	$I_C=50mA, V_{CE}=10V, f=50MHz$	80	120		MHz
Output capacitance	$C_{obo}$	$V_{CB}=10V, f=1MHz$		30	40	pF
Turn-on time	$t_{(on)}$	$I_C=3A, V_{CC}=10V$		120		ns
Turn-off time	$t_{(off)}$	$I_{B1}=I_{B2}=50mA$		160		ns

\* Pulse test:  $t_p = 300 \mu s$ ;  $d \leq 0.02$ .

## ■ Marking

Marking	617
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