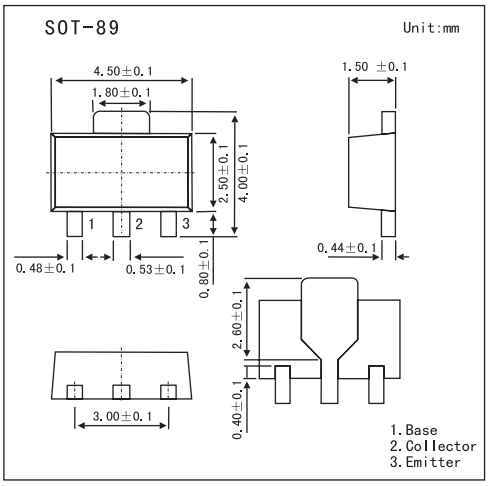
PNP Silicon Power Switching Transistor

FCX1147A



■ Features

- 2W power dissipation.
- 20A peak pulse current.
- Excellent H_{FE} characteristics up to 20 Amps.
- Extremely low saturation voltage E.g. 25mv Typ.
- Extremely low equivalent on-resistance.
  $R_{CE(sat)}$ 53mΩ at 3A.

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-15	V
Collector-emitter voltage	V_{CEO}	-12	V
Emitter-base voltage	V_{EBO}	-5	V
Continuous collector current	I_{CM}	-20	A
Peak pulse current	I_C	-3	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	℃

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100μA	-15			V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	I_C=-10mA	-12			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-100μA	-5			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=-12V		-0.3	10	nA
Collector Emitter Cut-Off Current	I_{CES}	V_{CE}=-10V		-0.3	10	nA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=-4V		-0.3	10	nA
Collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C=-0.1A, I_B=-1mA I_C=-0.5A, I_B=-2.5mA I_C=-1A, I_B=-6mA I_C=-2A, I_B=-20mA I_C=-3A, I_B=-30mA I_C=-5A, I_B=-50mA		-25 -70 -90 -115 -160 -250	-50 -110 -130 -170 -250 -400	mV
Base-emitter saturation voltage *	$V_{BE(sat)}$	I_C=-3A, I_B=-30mA		-820	-1000	mV
Base-emitter ON voltage *	$V_{BE(on)}$	I_C=-3A, V_{CE}=-2V		-770	-950	mV
Static Forward Current Transfer Ratio *	h_{FE}	I_C=-10mA,V_{CE}=-2V I_C=-0.5A,V_{CE}=-2V I_C=-2A,V_{CE}=-2V I_C=-3A,V_{CE}=-2V I_C=-5A,V_{CE}=-2V I_C=-10A,V_{CE}=-2V I_C=-20A,V_{CE}=-2V	270 250 200 200 150 90	450 400 340 300 245 145 50	- 850	
Transitional frequency	f_T	I_C=-50mA, V_{CE}=-10V, f=50MHz		115		MHz
Output capacitance	C_{obo}	V_{CB}=-10V, f=1MHz		80		pF
Turn-on time	$t_{(on)}$	I_C=-4A, V_{CC}=-10V		150		ns
Turn-off time	$t_{(off)}$	I_{B1}=I_{B2}=-40mA		220		ns

* Pulse test: tp = 300 μs; d ⩽ 0.02.

■ Marking

Marking	147