

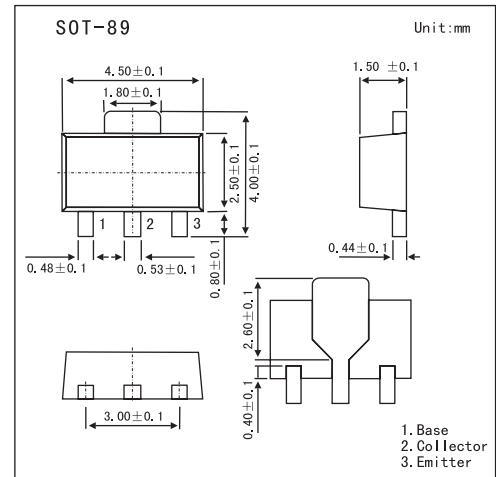
NPN Silicon Power Switching Transistor

FCX1053A

■ Features

- 2W power dissipation.
- 10A peak pulse current.
- Excellent HFE characteristics up to 10 Amps.
- Extremely low saturation voltage E.g. 21mv Typ.
- Extremely low equivalent on-resistance.

$R_{CE(sat)}$ 78m Ω at 4.5A.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	150	V
Collector-emitter voltage	V_{CE0}	75	V
Emitter-base voltage	V_{EB0}	5	V
Continuous collector current	I_{CM}	10	A
Peak pulse current	I_C	3	A
Power dissipation	P_{tot}	1	W
Operating and storage temperature range	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

FCX1053A

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V(BR)CBO	IC=100μA	150			V
Collector-emitter breakdown voltage *	V(BR)CEO	IC=10mA	75			V
Emitter-base breakdown voltage	V(BR)EBO	IE=100μA	5			V
Collector Cut-Off Current	ICBO	VCB=120V		0.9	10	nA
Collector Emitter Cut-Off Current	ICES	VCE=120V		1.5	10	nA
Emitter Cut-Off Current	IEBO	VEB=4V		0.3	10	nA
Collector-emitter saturation voltage *	VCE(sat)	IC=0.2A, IB=20mA IC=0.5A, IB=20mA IC=1A, IB=10mA IC=2A, IB=100mA IC=4.5A, IB=200mA		21 55 150 160 350	30 75 200 210 440	mV
Base-emitter saturation voltage *	VBE(sat)	IC=3A, IB=100mA		900	1000	mV
Base-emitter ON voltage *	VBE(on)	IC=3A, VCE=2V		825	950	mV
Static Forward Current Transfer Ratio *	hFE	IC=10mA, VCE=2V IC=0.5A, VCE=2V IC=1A, VCE=2V IC=4.5A, VCE=2V IC=10A, VCE=2V	270 300 300 40 -	440 450 450 60 20	1200 - -	
Transitional frequency	fT	IC=50mA, VCE=10V f=100MHz		140		MHz
Output capacitance	Cobo	VCB=10V, f=1MHz		21	30	pF
Turn-on time	t(on)	IC=2A, VCC=50V		162		ns
Turn-off time	t(off)	IB1=IB2=20mA		900		ns

* Pulse test: tp = 300 μs; d ≤ 0.02.

■ Marking

Marking	053
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