

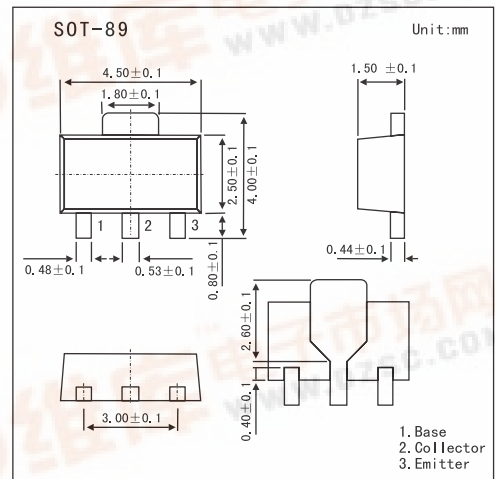
SMD Type Transistors

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)} 78mΩ at 4.5A.



■ Absolute Maximum Ratings Ta = 25°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	°C

FCX1053A

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A$	150			V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	$I_C=10mA$	75			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A$	5			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=120V$		0.9	10	nA
Collector Emitter Cut-Off Current	I_{CES}	$V_{CE}=120V$		1.5	10	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=4V$		0.3	10	nA
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C=0.2A, I_B=20mA$ $I_C=0.5A, I_B=20mA$ $I_C=1A, I_B=10mA$ $I_C=2A, I_B=100mA$ $I_C=4.5A, I_B=200mA$		21 55 150 160 350	30 75 200 210 440	mV
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C=3A, I_B=100mA$		900	1000	mV
Base-emitter ON voltage *	$V_{BE(on)}$	$I_C=3A, V_{CE}=2V$		825	950	mV
Static Forward Current Transfer Ratio *	h_{FE}	$I_C=10mA, V_{CE}=2V$ $I_C=0.5A, V_{CE}=2V$ $I_C=1A, V_{CE}=2V$ $I_C=4.5A, V_{CE}=2V$ $I_C=10A, V_{CE}=2V$	270 300 300 40 -	440 450 450 60 20	1200 -	
Transitional frequency	f_T	$I_C=50mA, V_{CE}=10V, f=100MHz$		140		MHz
Output capacitance	C_{obo}	$V_{CB}=10V, f=1MHz$		21	30	pF
Turn-on time	$t_{(on)}$	$I_C=2A, V_{CC}=50V$		162		ns
Turn-off time	$t_{(off)}$	$I_{B1}=I_{B2}=20mA$		900		ns

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

■ Marking

Marking	053
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