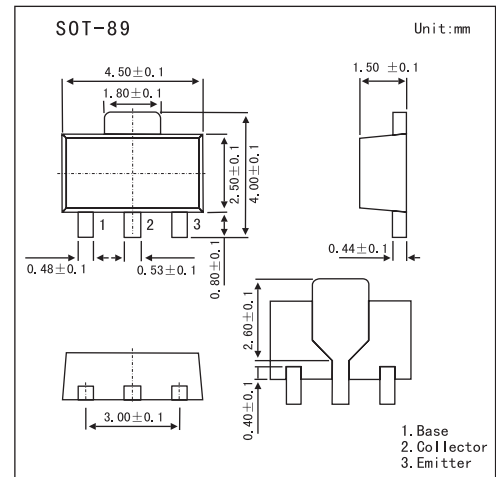


## NPN Silicon Planar High Voltage Transistor

## FCX458

## ■ Features

- 400 Volt  $V_{CE0}$
- $P_{tot}$  = 1 Watt

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

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CB0}$	400	V
Collector-Emitter Voltage	$V_{CE0}$	400	V
Emitter-Base Voltage	$V_{EB0}$	5	V
Continuous Collector Current	$I_C$	300	mA
Peak Pulse Current	$I_{CM}$	1	A
Base Current	$I_B$	200	mA
Power Dissipation at $T_{amb}=25^\circ\text{C}$	$P_{tot}$	2	W
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 to +150	$^\circ\text{C}$

## FCX458

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Max	Unit
Breakdown Voltages	V <sub>(BR)CBO</sub>	I <sub>C</sub> =100μA	400		V
Breakdown Voltages	V <sub>CEO(sus)</sub>	I <sub>C</sub> =10mA*	400		V
Breakdown Voltages	V <sub>(BR)EBO</sub>	I <sub>E</sub> =100μA	5		V
Collector Cut-Off Currents	I <sub>CBO</sub>	V <sub>CB</sub> =320V		100	nA
Collector Cut-Off Currents	I <sub>CES</sub>	V <sub>CE</sub> =320V		100	nA
Emitter Cut-Off Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V		100	nA
Emitter Saturation Voltages	V <sub>CE(sat)</sub>	I <sub>C</sub> =20mA, I <sub>B</sub> =2mA*		0.2	V
		I <sub>C</sub> =50mA, I <sub>B</sub> =6mA*		0.5	V
	V <sub>BE(sat)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5mA*		0.9	V
Base-Emitter Turn On Voltage	V <sub>BE(on)</sub>	I <sub>C</sub> =50mA, V <sub>CE</sub> =10V*		0.9	V
Static Forward Current Transfer Ratio	h <sub>FE</sub>	I <sub>C</sub> =1mA, V <sub>CE</sub> =10V	100		
		I <sub>C</sub> =50mA, V <sub>CE</sub> =10V*	100	300	
		I <sub>C</sub> =100mA, V <sub>CE</sub> =10V*	15		
Transition Frequency	f <sub>T</sub>	I <sub>C</sub> =10mA, V <sub>CE</sub> =20V, f=20MHz	50		MHz
Collector-Base Breakdown Voltage	C <sub>obo</sub>	V <sub>CB</sub> =20V, f=1MHz		5	pF
Switching times	t <sub>on</sub>	I <sub>C</sub> =50mA, V <sub>CC</sub> =100V	135 Typical		ns
	t <sub>off</sub>	I <sub>B1</sub> =5mA, I <sub>B2</sub> =-10mA	2260 Typical		ns

\* Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%

## ■ Marking

Marking	N58
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