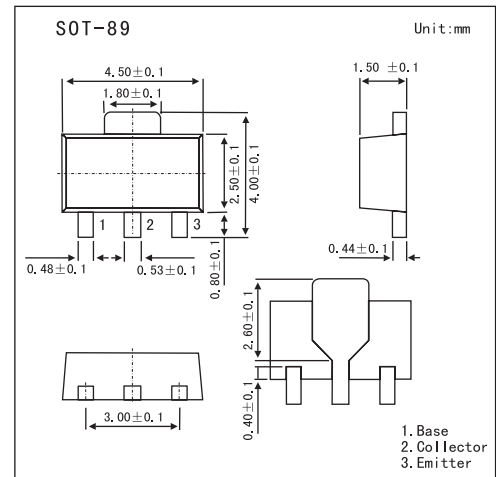


## NPN Silicon Planar Medium Power High Voltage Transistor FCX658A

### ■ Features

- 400 Volt  $V_{CE0}$
- 0.5 Amp continuous current
- $P_{tot}=1$  Watt
- Optimised  $h_{fe}$  characterised upto 200mA



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

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	400	V
Collector-Emitter Voltage	$V_{CEO}$	400	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Peak Pulse Current	$I_{CM}$	1	A
Continuous Collector Current	$I_C$	500	mA
Power Dissipation at $T_{amb}=25^\circ\text{C}$	$P_{tot}$	1	W
derate above $25^\circ\text{C}$		5.7	mW/ $^\circ\text{C}$
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^\circ\text{C}$

## FCX658A

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =100μA	400	480		V
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =10mA*	400	465		V
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =100μA	5	7.8		V
Collector Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =320V			100	nA
Collector Cut-Off Current	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
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =20mA, I <sub>B</sub> =1mA			0.165	V
		I <sub>C</sub> =50mA, I <sub>B</sub> =5mA*			0.125	
		I <sub>C</sub> =100mA, I <sub>B</sub> =10mA*			0.2	
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA*		0.75	0.85	V
Base-Emitter Turn On Voltage	V <sub>BE(on)</sub>	I <sub>C</sub> =100mA, V <sub>CE</sub> =5V*		0.70	0.85	V
Static Forward Current Transfer Ratio	h <sub>FE</sub>	I <sub>C</sub> =1mA, V <sub>CE</sub> =5V*	85	150		
		I <sub>C</sub> =10mA, V <sub>CE</sub> =10V*	100	170		
		I <sub>C</sub> =100mA, V <sub>CE</sub> =5V*	55	130		
		I <sub>C</sub> =200mA, V <sub>CE</sub> =10V*	35	90		
Transition Frequency	f <sub>T</sub>	I <sub>C</sub> =20mA, V <sub>CE</sub> =20V, f=20MHz	50			MHz
Output Capacitance	C <sub>obo</sub>	V <sub>CB</sub> =20V, f=1MHz			10	pF
Switching times	t <sub>on</sub>	I <sub>C</sub> =100mA, V <sub>C</sub> =100V		130		ns
	t <sub>off</sub>	I <sub>B1</sub> =10mA, I <sub>B2</sub> =-20mA		3300		ns

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

## ■ Marking

Marking	65A
---------	-----