



# FCX495

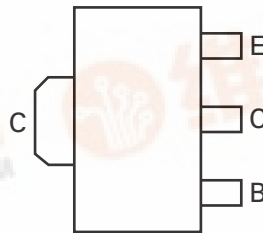
## SOT89 NPN silicon planar high voltage transistor

### Features

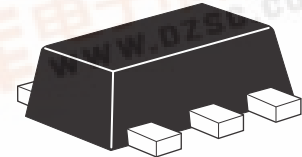
- 150 Volt  $V_{CE0}$
- 1 Amp continuous current

### Device marking

N95



Pinout - top view



### Absolute maximum ratings

Parameter	Symbol	Value	Unit
Collector-base voltage	$V_{CBO}$	170	V
Collector-emitter voltage	$V_{CEO}$	150	V
Emitter-base voltage	$V_{EBO}$	5	V
Continuous collector current	$I_C$	1	A
Peak pulse current	$I_{CM}$	2	A
Base current	$I_B$	200	mA
Power dissipation at $T_{amb} = 25^\circ\text{C}$	$P_{tot}$	1	W
Operating and storage temperature range	$T_j; T_{stg}$	-65 to +150	$^\circ\text{C}$

### Electrical characteristics (at $T_{amb} = 25^\circ\text{C}$ )

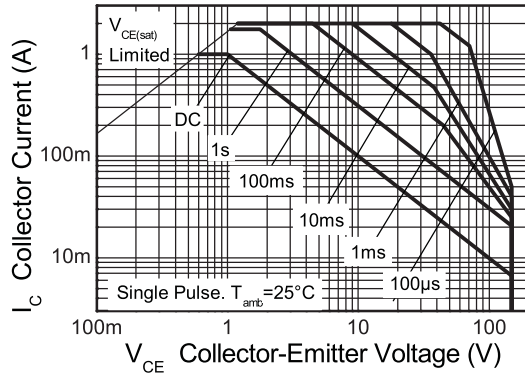
Parameter	Symbol	Min.	Max.	Unit	Conditions
Breakdown voltages	$V_{(BR)CBO}$	170		V	$I_C=100\mu\text{A}$
	$V_{CEO(sus)}$	150		V	$I_C=10\text{mA}^{(*)}$
	$V_{(BR)EBO}$	5		V	$I_E=100\mu\text{A}$
Collector cut-off currents	$I_{CBO}, I_{CES}$		100	nA	$V_{CB}=150\text{V}, V_{CE}=150\text{V}$
Emitter cut-off current	$I_{EBO}$		100	nA	$V_{EB}=4\text{V}$
Emitter saturation voltages	$V_{CE(sat)}$		0.2	V	$I_C=250\text{mA}, I_B=25\text{mA}^{(*)}$
			0.3	V	$I_C=500\text{mA}, I_B=50\text{mA}^{(*)}$
	$V_{BE(sat)}$		1.0	V	$I_C=500\text{mA}, I_B=50\text{mA}^{(*)}$
Base-emitter turn on voltage	$V_{BE(on)}$		1.0	V	$I_C=500\text{mA}, V_{CE}=10\text{V}^{(*)}$
Static forward current transfer ratio	$h_{FE}$	100	300		$I_C=1\text{mA}, V_{CE}=10\text{V}$
		100			$I_C=250\text{mA}, V_{CE}=10\text{V}^{(*)}$
		50			$I_C=500\text{mA}, V_{CE}=10\text{V}^{(*)}$
		10			$I_C=1\text{A}, V_{CE}=10\text{V}^{(*)}$
Transition frequency	$f_T$	100		MHz	$I_C=50\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$
Collector-base breakdown voltage	$C_{obo}$		10	pF	$V_{CB}=10\text{V}, f=1\text{MHz}$

#### NOTES:

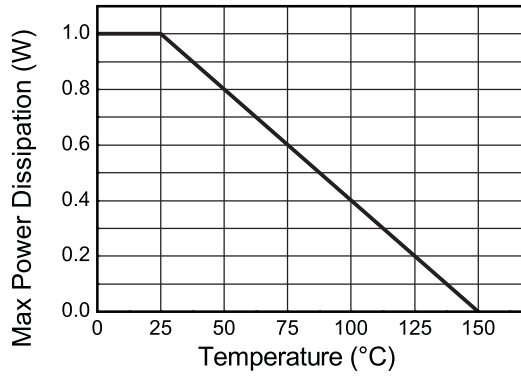
(\*) Measured under pulsed conditions. Pulse width = 300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$



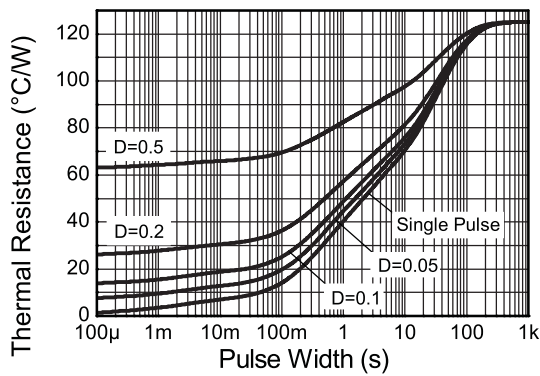
## Typical characteristics



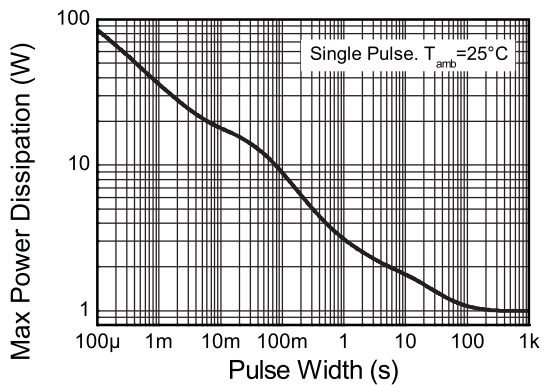
**Safe Operating Area**



**Derating Curve**

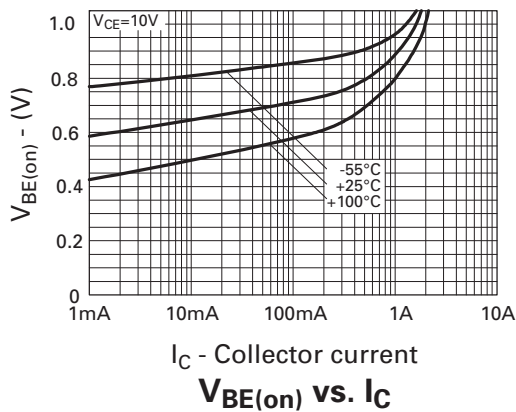
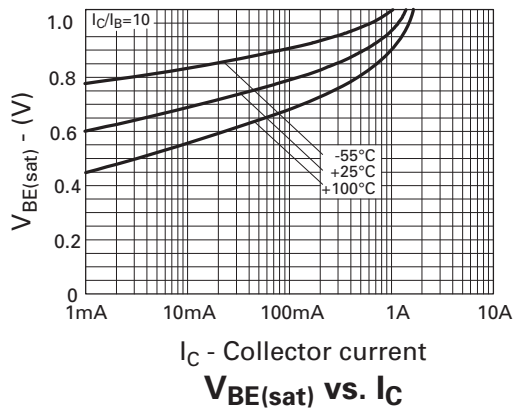
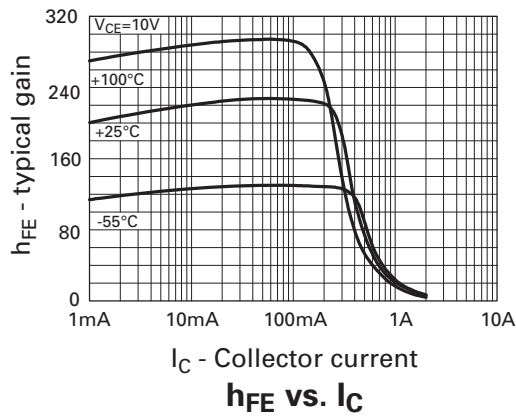
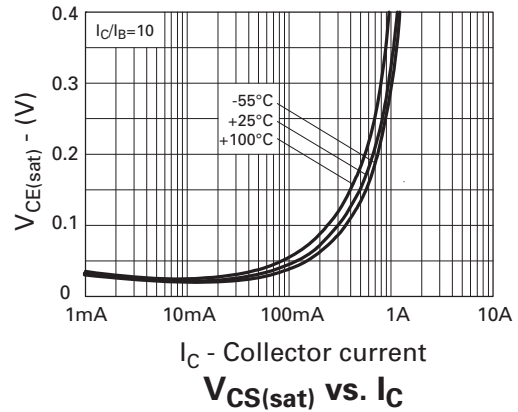
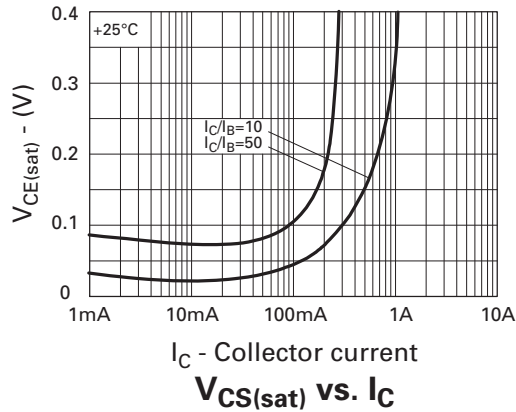


**Transient Thermal Impedance**



**Pulse Power Dissipation**

## Typical characteristics

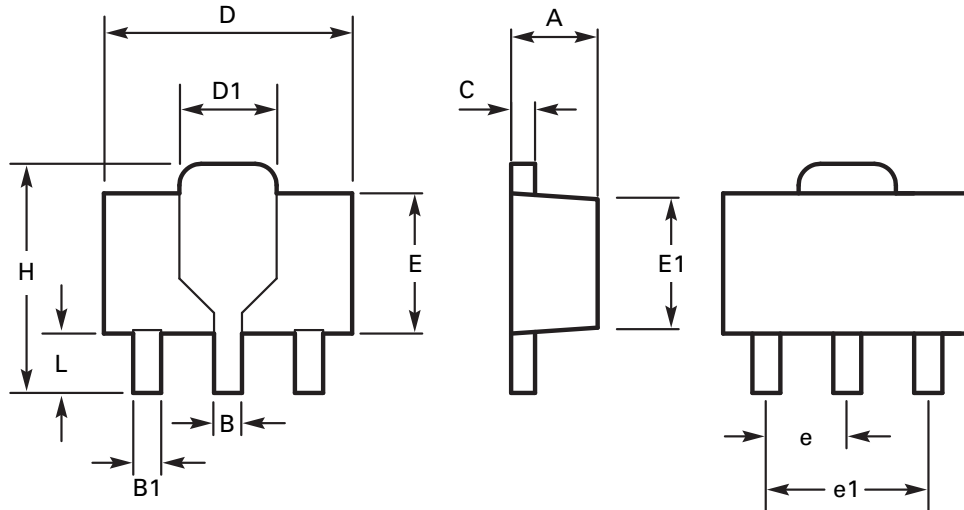


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## Package outline - SOT89



DIM	Millimeters		Inches		DIM	Millimeters		Inches	
	Min	Max	Min	Max		Min	Max	Min	Max
A	1.40	1.60	0.550	0.630	E	2.29	2.60	0.090	0.102
B	0.44	0.56	0.017	0.022	E1	2.13	2.29	0.084	0.090
B1	0.36	0.48	0.014	0.019	e	1.50 BSC		0.059 BSC	
C	0.35	0.44	0.014	0.017	e1	3.00 BSC		0.118 BSC	
D	4.40	4.60	0.173	0.181	H	3.94	4.25	0.155	0.167
D1	1.52	1.83	0.064	0.072	L	0.89	1.20	0.035	0.047

**Note:** Controlling dimensions are in millimeters. Approximate dimensions are provided in inches

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### Zetex sales offices

#### Europe

Zetex GmbH  
Kustermann-park  
Balanstraße 59  
D-81541 München  
Germany  
Telefon: (49) 89 45 49 49 0  
Fax: (49) 89 45 49 49 49  
[europe.sales@zetex.com](mailto:europe.sales@zetex.com)

#### Americas

Zetex Inc  
700 Veterans Memorial Highway  
Hauppauge, NY 11788  
USA  
Telephone: (1) 631 360 2222  
Fax: (1) 631 360 8222  
[usa.sales@zetex.com](mailto:usa.sales@zetex.com)

#### Asia Pacific

Zetex (Asia Ltd)  
3701-04 Metroplaza Tower 1  
Hing Fong Road, Kwai Fong  
Hong Kong  
Telephone: (852) 26100 611  
Fax: (852) 24250 494  
[asia.sales@zetex.com](mailto:asia.sales@zetex.com)

#### Corporate Headquarters

Zetex Semiconductors plc  
Zetex Technology Park, Chadderton  
Oldham, OL9 9LL  
United Kingdom  
Telephone: (44) 161 622 4444  
Fax: (44) 161 622 4446  
[hq@zetex.com](mailto:hq@zetex.com)