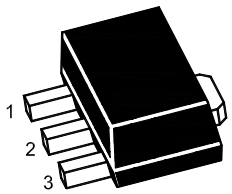
NPN silicon planar high voltage transistor

Features

- 150 Volt V_{CEO}
- 1 Amp continuous current



1.Base 2.Collector 3.Emitter
SOT-89 Plastic Package

Device marking

N95

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°C	P_{tot}	1	W
Operating and storage temperature range	T_j:T_{stg}	-65 to +150	°C

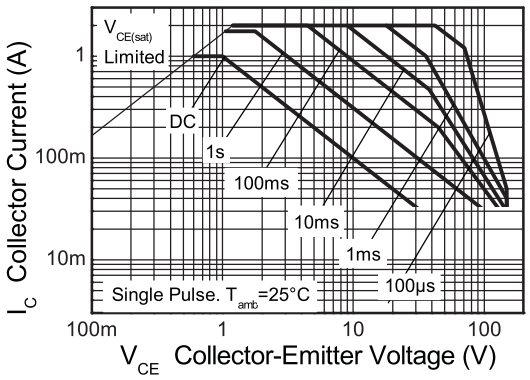
Electrical characteristics (at T_{amb} = 25°C)

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

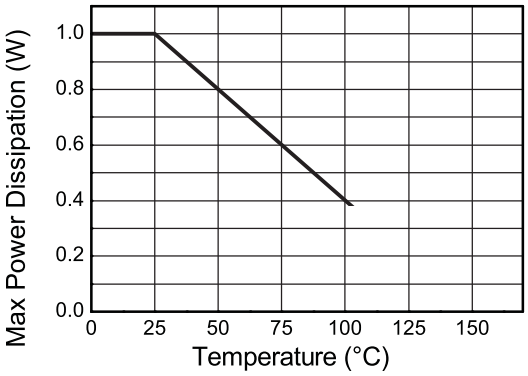
NOTES:
(*) Measured under pulsed conditions. Pulse width = 300μs. Duty cycle ≤2%

FCX495

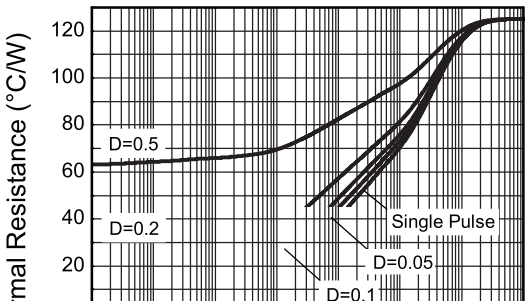
Typical characteristics

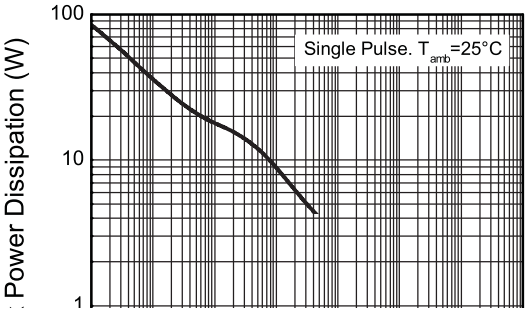


Safe Operating Area



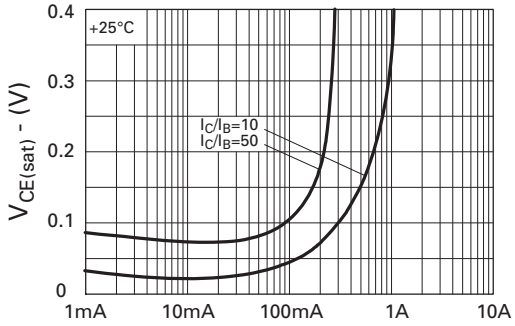
Derating Curve



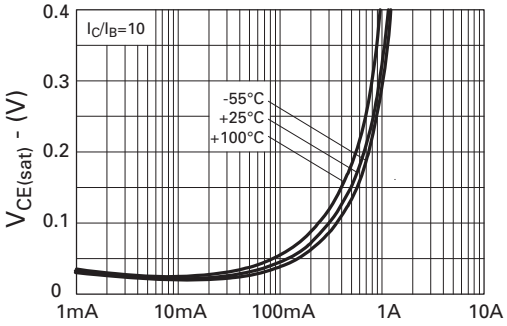


FCX495

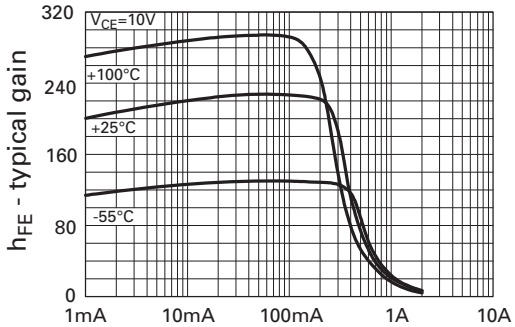
Typical characteristics



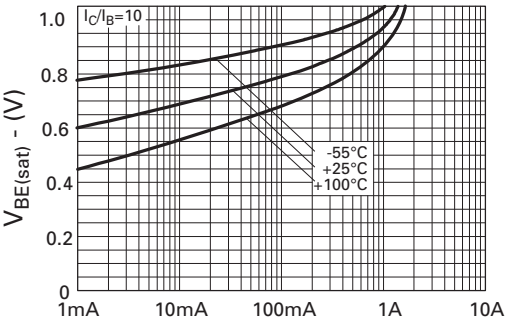
$V_{CS(sat)}$ vs. I_C



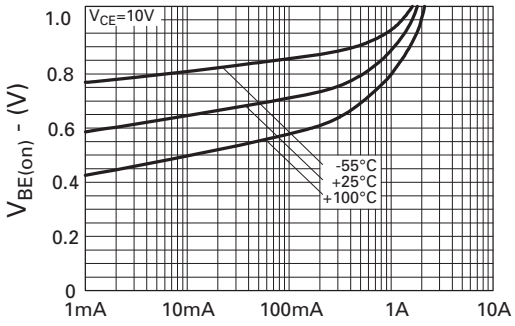
$V_{CS(sat)}$ vs. I_C



h_{FE} vs. I_C



$V_{BE(sat)}$ vs. I_C



$V_{BE(on)}$ vs. I_C