

FCX493

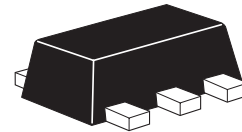
SOT89 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

SUMMARY

$V_{CE0} = 100V$: $I_C = 1A$
Complementary type FCX593

DESCRIPTION

Packaged in the SOT89 outline this 100V device provides excellent high performance and is ideally suited to load management functions.



SOT89

FEATURES

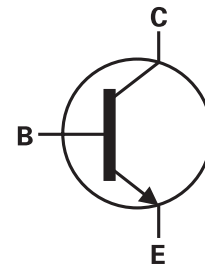
- 1 amp continuous current
- Low saturation voltages

APPLICATIONS

- Load management functions
- Solenoid, relay and actuator drivers
- DC-DC modules

DEVICE MARKING

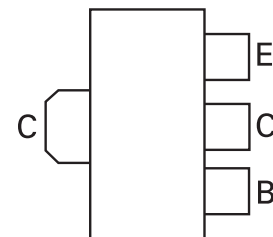
N93



ORDERING INFORMATION

DEVICE	REEL SIZE	TAPE WIDTH	QUANTITY PER REEL
FCX493TA	7"	12mm embossed	1000 units
FCX493TC	13"	12mm embossed	4000 units

PINOUT



TOP VIEW

FCX493

ABSOLUTE MAXIMUM RATINGS

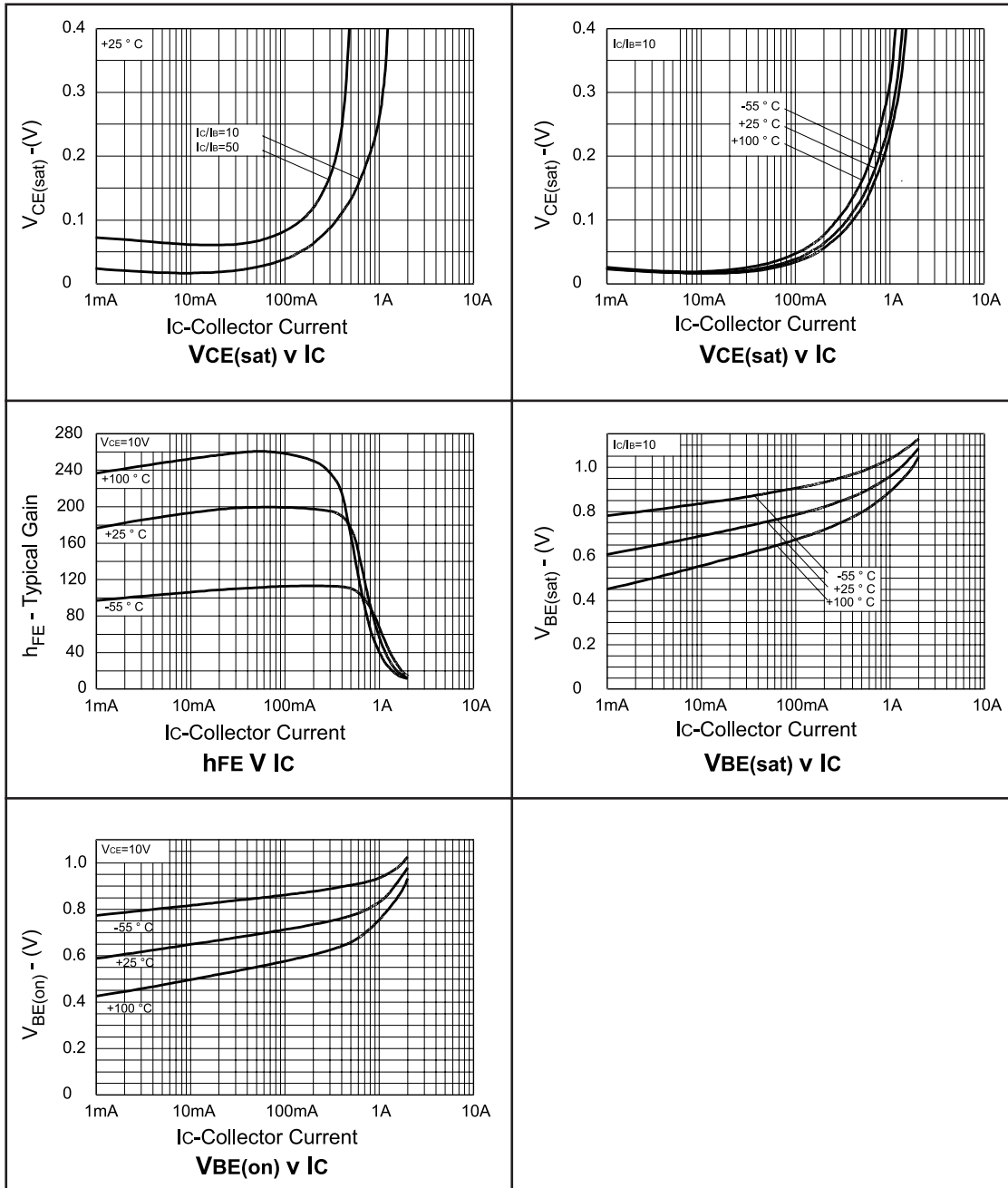
PARAMETER	SYMBOL	VALUE	UNIT
Collector-base voltage	V_{CBO}	120	V
Collector-emitter voltage	V_{CEO}	100	V
Emitter-base voltage	V_{EBO}	5	V
Continuous collector current	I_C	1	A
Peak pulse current	I_{CM}	2	A
Base current	I_B	200	mA
Power dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	1	W
Operating and storage temperature range	$T_j:T_{stg}$	-65 to +150	$^{\circ}C$

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated)

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS
Breakdown voltages	$V_{(BR)CBO}$	120		V	$I_C=100\mu A$
	$V_{CEO(sus)}$	100		V	$I_C=10mA^*$
	$V_{(BR)EBO}$	5		V	$I_E=100\mu A$
Collector cut-off currents	I_{CBO}		100	nA	$V_{CB}=100V$
	I_{CES}		100	nA	$V_{CES}=100V$
Emitter cut-off current	I_{EBO}		100	nA	$V_{EB}=4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$		0.3 0.6	V V	$I_C=500mA, I_B=50mA$ $I_C=1A, I_B=100mA$
Base-emitter saturation voltage	$V_{BE(sat)}$		1.15	V	$I_C=1A, I_B=100mA$
Base-emitter turn on voltage	$V_{BE(on)}$		1.0	V	$I_C=1A, V_{CE}=10V$
Static forward current transfer ratio	h_{FE}	100 100 60 20	300		$I_C=1mA, V_{CE}=10V^*$ $I_C=250mA, V_{CE}=10V^*$ $I_C=500mA, V_{CE}=10V^*$ $I_C=1A, V_{CE}=10V^*$
Transition frequency	f_T	150		MHz	$I_C=50mA, V_{CE}=10V$ $f=100MHz$
Output capacitance	C_{obo}		10	pF	$V_{CB}=10V, f=1MHz$

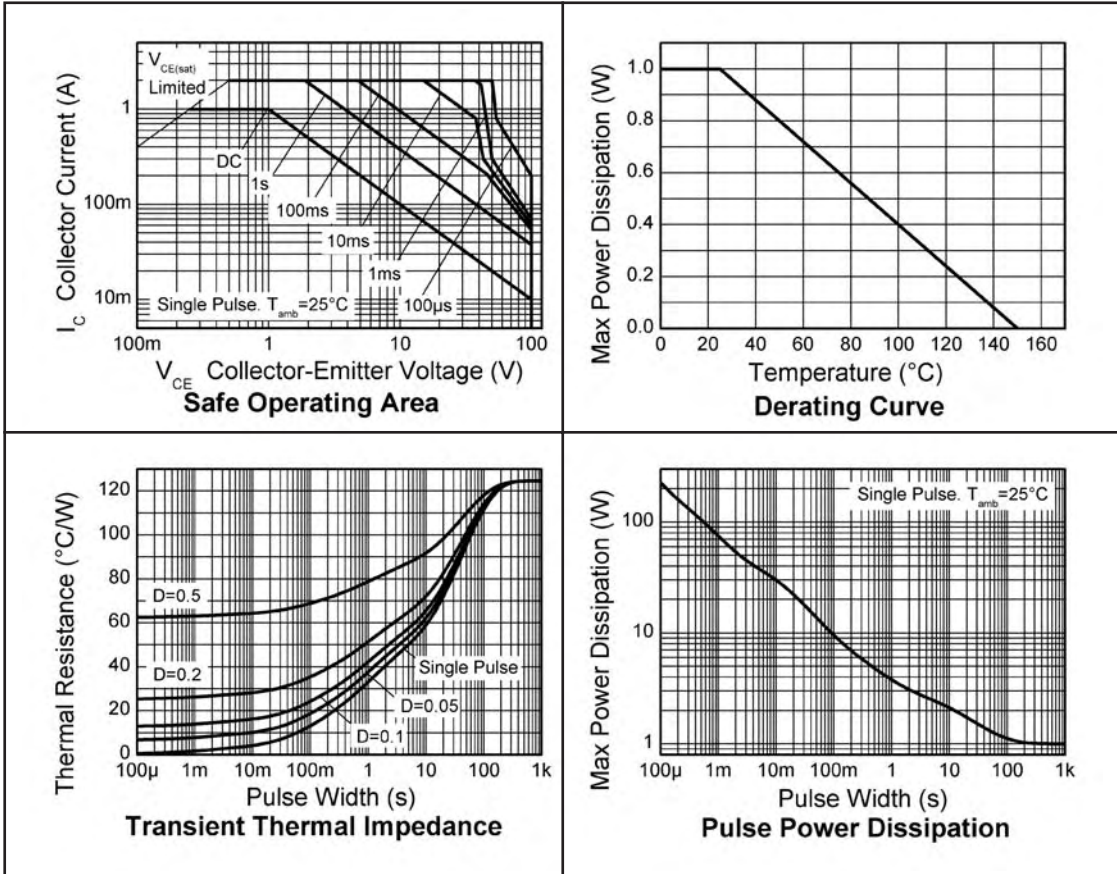
*Measured under pulsed conditions. Pulse width $\leq 300\mu s$; duty cycle $\leq 2\%$.

TYPICAL CHARACTERISTICS



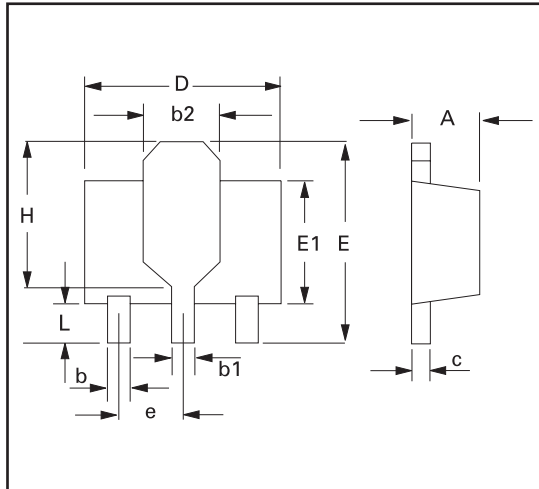
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CHARACTERISTICS

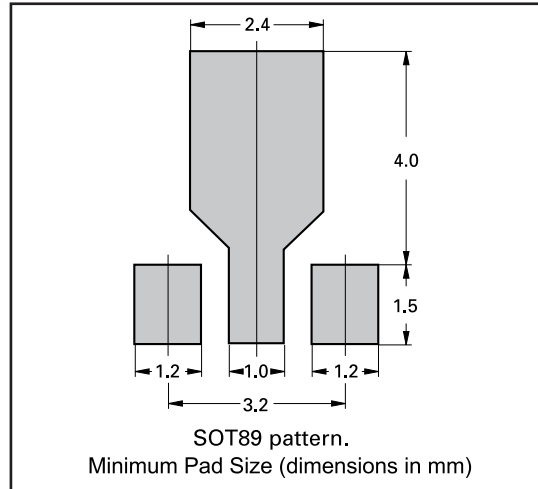


FCX493

PACKAGE OUTLINE



PAD LAYOUT DETAILS



Controlling dimensions are in millimeters. Approximate conversions are given in inches

PACKAGE DIMENSIONS

DIM	Millimeters		Inches		DIM	Millimeters		Inches	
	Min	Max	Min	Max		Min	Max	Min	Max
A	1.40	1.60	0.550	0.630	e	1.40	1.50	0.055	0.059
b	0.38	0.48	0.015	0.019	E	3.75	4.25	0.150	0.167
b1	-	0.53	-	0.021	E1	-	2.60	-	0.102
b2	1.50	1.80	0.060	0.071	G	2.90	3.00	0.114	0.118
c	0.28	0.44	0.011	0.017	H	2.60	2.85	0.102	0.112
D	4.40	4.60	0.173	0.181	-	-	-	-	-

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