



**THE DATASHEET OF
ZXTP2039FTA**

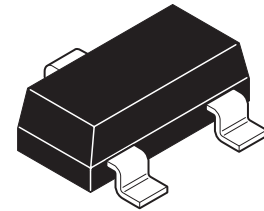


ZXTP2039F

SOT23 80 volt PNP silicon planar medium power transistor

Summary

$V_{(BR)CEV} > -80V$
 $V_{(BR)CEO} > -60V$
 $I_{c(cont)} = -1A$
 $V_{ce(sat)} < -600mV @ -1A$



Complementary type

ZXTN2038F

Description

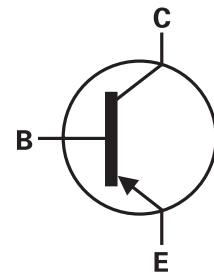
This transistor combines high gain, high current operation and low saturation voltage making it ideal for power MOSFET gate driving and low loss power switching.

Features

- Low saturation voltage for reduced power dissipation
- 1 to 2 amp high current capability
- Pb-free
- SOT23 package

Applications

- Power MOSFET gate driving
- Low loss power switching



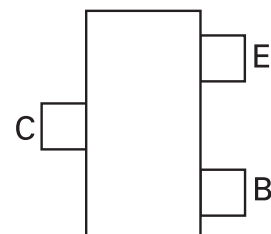
Ordering information

Device	Reel size	Tape width	Quantity per reel
ZXTP2039FTA	7"	8mm	3,000
ZXTP2039FTC	13"	8mm	10,000

Device marking

P39

Pin out - top view



ZXTP2039F

Absolute maximum ratings

Parameter	Symbol	Limit	Unit
Collector-base voltage	V_{CBO}	-80	V
Collector-emitter voltage	V_{CEV}	-80	V
Collector-emitter voltage	V_{CEO}	-60	V
Emitter-base voltage	V_{EBO}	-5.0	V
Peak pulse current	I_{CM}	-2	A
Continuous collector current *	I_C	-1	A
Peak base current	I_{BM}	-1	A
Power dissipation @ $T_A=25^\circ\text{C}$ *	P_D	350	mW
Operating and storage temperature	$T_j; T_{stg}$	-55 to +150	$^\circ\text{C}$

NOTES:

* For a device surface mounted on a 15mm x 15mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.

ZXTP2039F

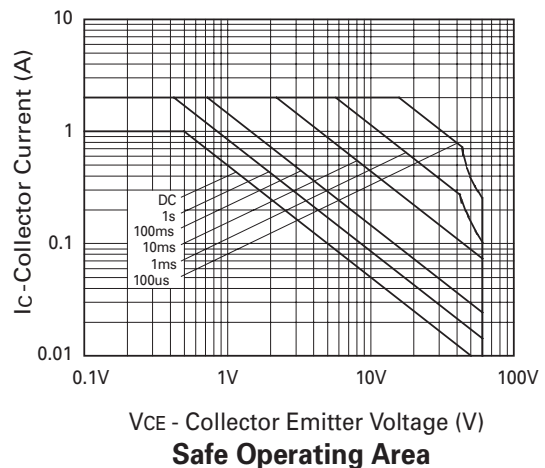
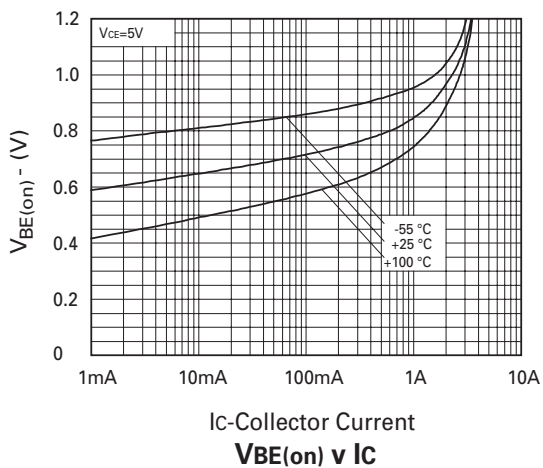
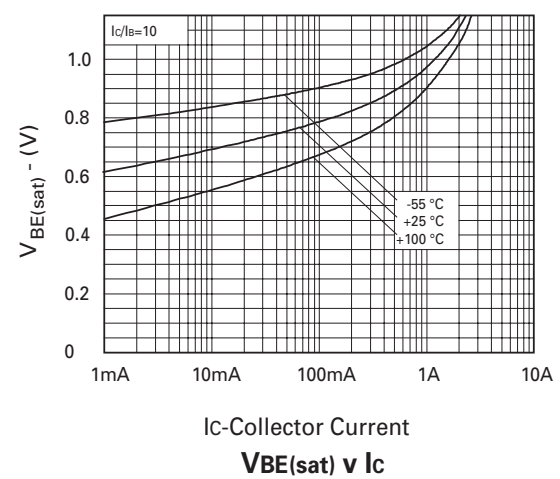
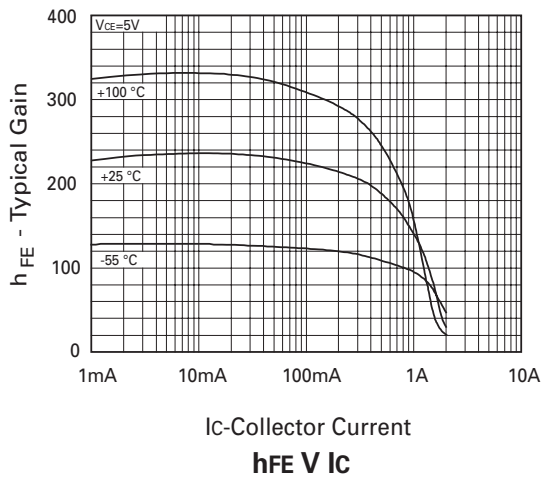
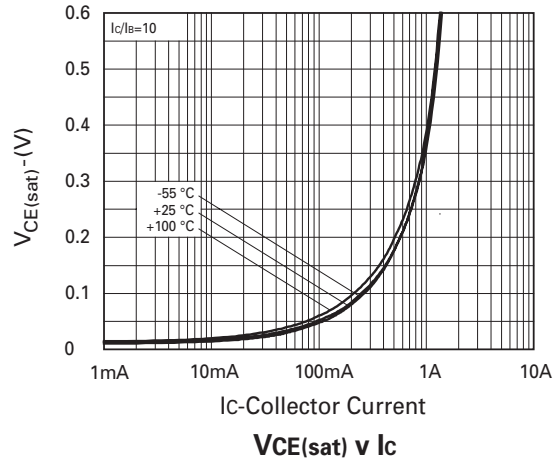
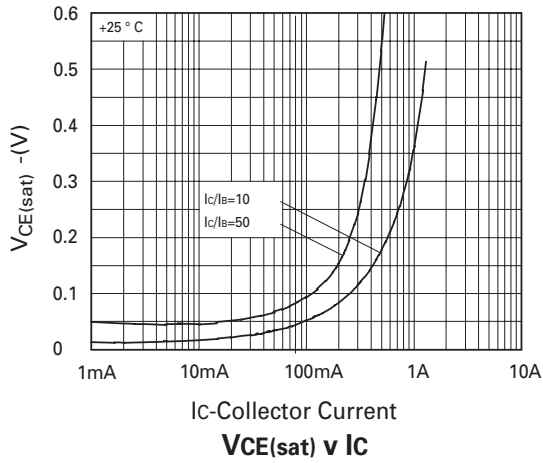
Electrical characteristics (@T_{AMB} = 25°C)

Parameter	Symbol	Min.	Max.	Unit	Conditions
Collector-base breakdown voltage	V _{(BR)CBO}	-80		V	I _C =-100μA
Collector-emitter breakdown voltage	V _{(BR)CEV}	-80		V	I _C =-1μA -0.3V < V _{BE} < 1V
Collector-emitter breakdown voltage	V _{(BR)CEO}	-60		V	I _C =-10mA *
Emitter-base breakdown voltage	V _{(BR)EBO}	-5		V	I _E =-100μA
Collector-emitter cut-off current	I _{CES}		-100	nA	V _{CE} =-60V
Collector-base cut-off current	I _{CBO}		-100	nA	V _{CB} =-60V
Emitter-base cut-off current	I _{EBO}		-100	nA	V _{EB} =-4V
Static forward current transfer ratio	h _{FE}	100 100 80 15	300		I _C =-1mA, V _{CE} =-5V I _C =-500mA, V _{CE} =-5V* I _C =-1A, V _{CE} =-5V* I _C =-2A, V _{CE} =-5V*
Collector-emitter saturation voltage	V _{CE(sat)}		-0.2 -0.3 -0.6	V V V	I _C =-100mA, I _B =-2mA* I _C =-500mA, I _B =-50mA* I _C =-1A, I _B =-100mA*
Base-emitter saturation voltage	V _{BE(sat)}		-1.2	V	I _C =-1A, I _B =-100mA*
Base-emitter turn-on voltage	V _{BE(on)}		-1.0	V	I _C =-1A, V _{CE} =-5V*
Transition frequency	f _T	150			I _C =-50mA, V _{CE} =-10V f=100MHz
Output capacitance	C _{obo}		10	pF	V _{CB} =-10V, f=1MHz

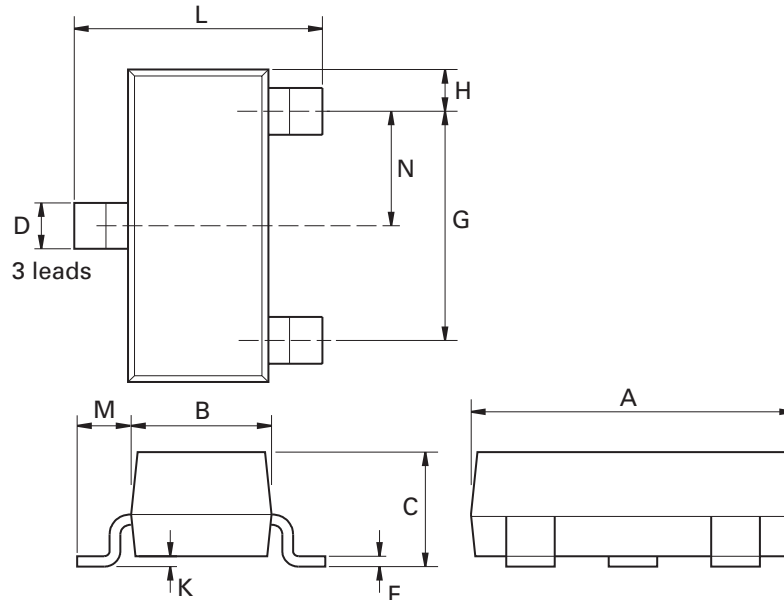
NOTES:

* Measured under pulsed conditions. Pulse width=300μS. Duty cycle ≤2%
Spice parameter data is available upon request for this device

Typical characteristics



Packaging details - SOT23



Package dimensions

Dimensions in inches are control dimensions, dimensions in millimeters are approximate.

Dim.	Millimeters		Inches		Dim.	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Max.	Max.
A	2.67	3.05	0.105	0.120	H	0.33	0.51	0.013	0.020
B	1.20	1.40	0.047	0.055	K	0.01	0.10	0.0004	0.004
C	-	1.10	-	0.043	L	2.10	2.50	0.083	0.0985
D	0.37	0.53	0.015	0.021	M	0.45	0.64	0.018	0.025
F	0.085	0.15	0.0034	0.0059	N	0.95 Nom.		0.0375 Nom.	
G	1.90 Nom.		0.075 Nom.		-	-	-	-	-

Europe

Zetex GmbH
Streitfeldstraße 19
D-81673 München
Germany

Telefon: (49) 89 45 49 49 0
Fax: (49) 89 45 49 49 49
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

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

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

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