

FMMTA06

SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTORS

SUMMARY

$V_{(BR)CEO} > 80V$

$I_{C(cont)} = 500mA$

DESCRIPTION

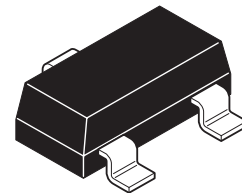
80V medium power NPN transistor in a compact SOT23 package

FEATURES

- 80V V_{CEO}
- Compact SOT23 package
- $H_{FE} 50 @ I_C = 100mA$

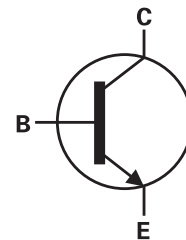
APPLICATIONS

- Low power motor driving circuits



SOT23

SYMBOL



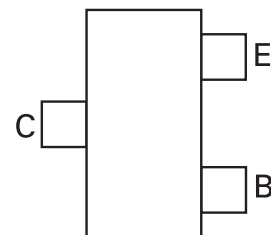
ORDERING INFORMATION

DEVICE	REEL SIZE	TAPE WIDTH	QUANTITY PER REEL
FMMTA06TA	7"	8mm	3,000

DEVICE MARKING

- 1G

PINOUT



TOP VIEW

FMMTA06

ABSOLUTE MAXIMUM RATINGS

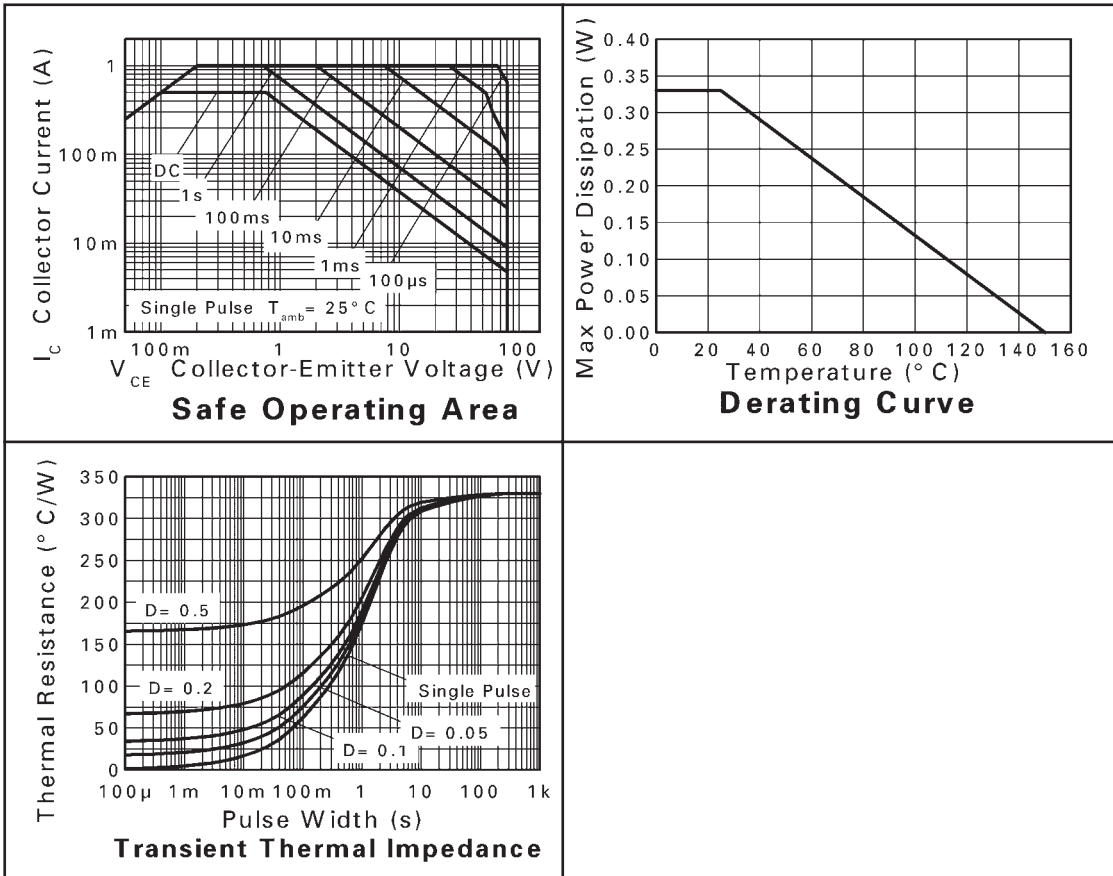
PARAMETER	SYMBOL	LIMIT	UNIT
Collector-base voltage	V_{CBO}	80	V
Collector-emitter voltage	V_{CEO}	80	V
Emitter-base voltage	V_{EBO}	4	V
Peak pulse current	I_{CM}	1	A
Continuous collector current	I_C	500	mA
Base current	I_B	100	mA
Power dissipation @ $T_A = 25^\circ\text{C}$	P_D	330	mW
Linear derating factor		2.64	mW/ $^\circ\text{C}$
Operating and storage temperature	$T_j; T_{stg}$	-55 to + 150	$^\circ\text{C}$

THERMAL RESISTANCE

PARAMETER	SYMBOL	VALUE	UNIT
Junction to ambient	$R\theta_{JA}$	379	$^\circ\text{C}/\text{W}$

FMMTA06

CHARACTERISTICS



FMMTA06

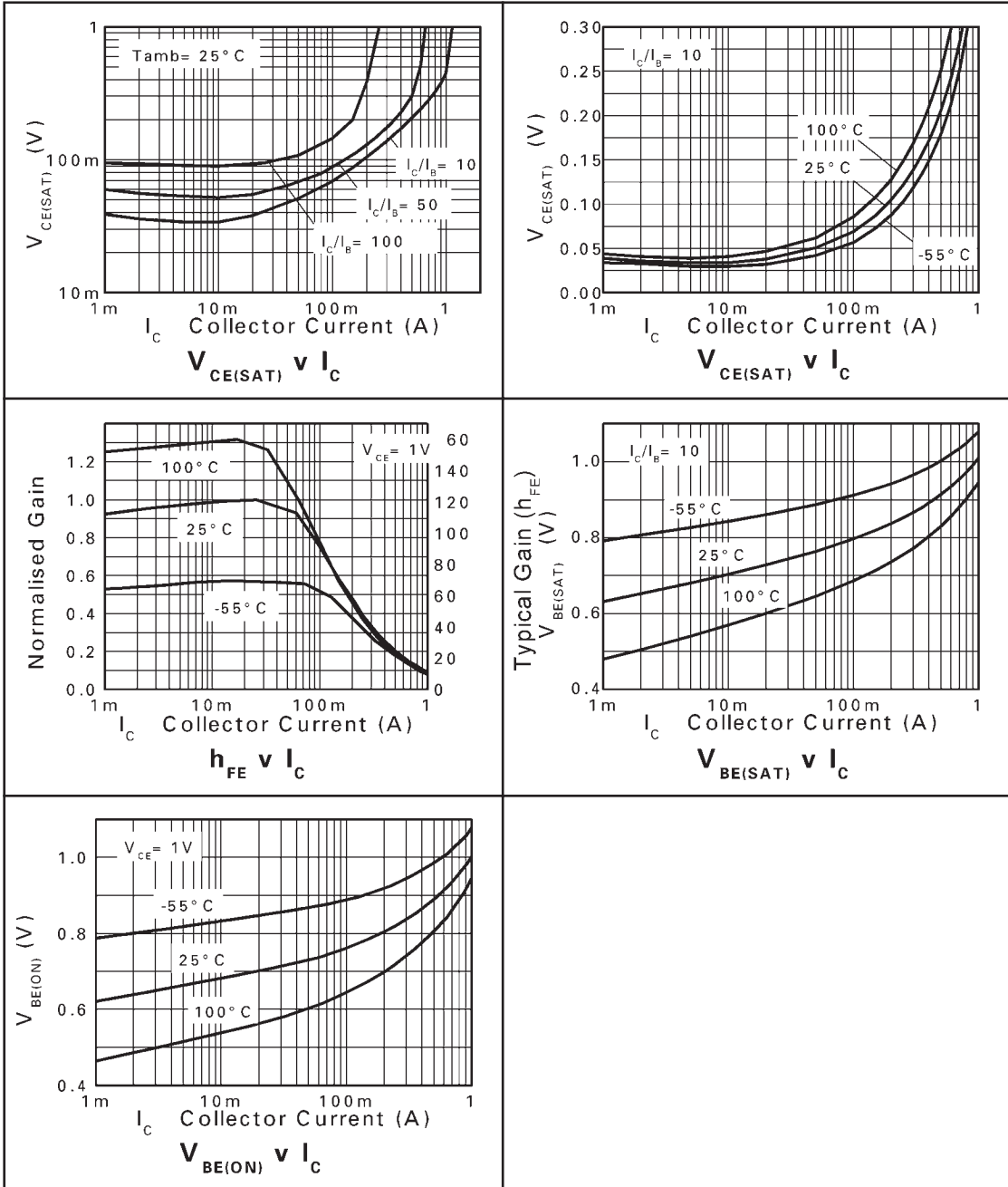
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Collector-base breakdown voltage	$V_{(BR)CBO}$	80			V	$I_C = 1mA$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	80			V	$I_C = 10mA^*$
Emitter-base breakdown voltage	$V_{(BR)EBO}$	4			V	$I_E = 100\mu A$
Collector-emitter cut-off current	I_{CES}			100	nA	$V_{CE} = 60V$
Collector-base cut-off current	I_{CBO}			100	nA	$V_{CB} = 80V$
Static forward current transfer ratio	H_{FE}	50 50	120			$I_C = 10mA, V_{CE} = 1V^*$ $I_C = 100mA, V_{CE} = 1V^*$
Collector-emitter saturation voltage	$V_{CE(sat)}$			0.25	V	$I_C = 100mA, I_B = 10mA^*$
Base-emitter turn-on voltage	$V_{BE(on)}$			1.2	V	$I_C = 0.1A, V_{CE} = 1V^*$
Transition frequency	f_T	100				$I_C = 10mA, V_{CE} = 2V,$ $f = 100MHz$

NOTES

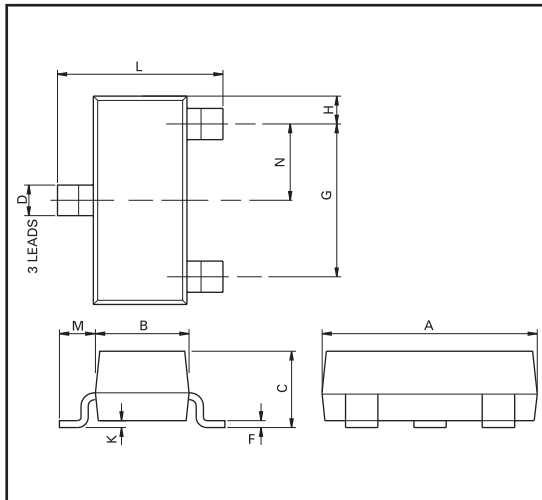
* Measured under pulsed conditions. Pulse width= $300\mu S$. Duty cycle $\leq 2\%$

TYPICAL CHARACTERISTICS



FMMTA06

PACKAGE OUTLINE



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	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		—	—		—	

©Zetex Semiconductors plc 2004

Europe	Americas	Asia Pacific	Corporate Headquarters
Zetex GmbH Streitfeldstraße 19 D-81673 München Germany	Zetex Inc 700 Veterans Memorial Hwy Hauppauge, NY 11788 USA	Zetex (Asia) Ltd 3701-04 Metroplaza Tower 1 Hing Fong Road, Kwai Fong Hong Kong	Zetex Semiconductors plc Zetex Technology Park, Chadderton Oldham, OL9 9LL United Kingdom
Telefon: (49) 89 45 49 49 0 Fax: (49) 89 45 49 49 49 europe.sales@zetex.com	Telephone: (1) 631 360 2222 Fax: (1) 631 360 8222 usa.sales@zetex.com	Telephone: (852) 26100 611 Fax: (852) 24250 494 asia.sales@zetex.com	Telephone (44) 161 622 4444 Fax: (44) 161 622 4446 hq@zetex.com

These offices are supported by agents and distributors in major countries world-wide.

This publication is issued to provide outline information only which (unless agreed by the Company in writing) may not be used, applied or reproduced for any purpose or form part of any order or contract or be regarded as a representation relating to the products or services concerned. The Company reserves the right to alter without notice the specification, design, price or conditions of supply of any product or service.

For the latest product information, log on to www.zetex.com



ISSUE 2 - MAY 2004