

FMMTA06

SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTORS

SUMMARY

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

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

DESCRIPTION

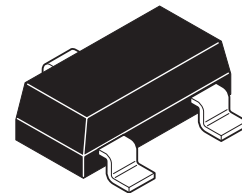
80V medium power NPN transistor in a compact SOT23 package

FEATURES

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

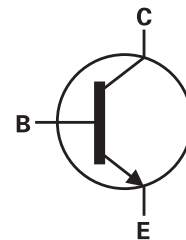
APPLICATIONS

- Low power motor driving circuits



SOT23

SYMBOL



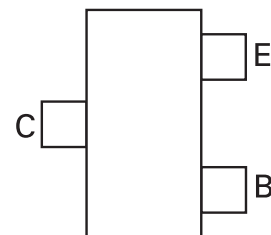
ORDERING INFORMATION

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

DEVICE MARKING

- 1G

PINOUT



TOP VIEW

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ABSOLUTE MAXIMUM RATINGS

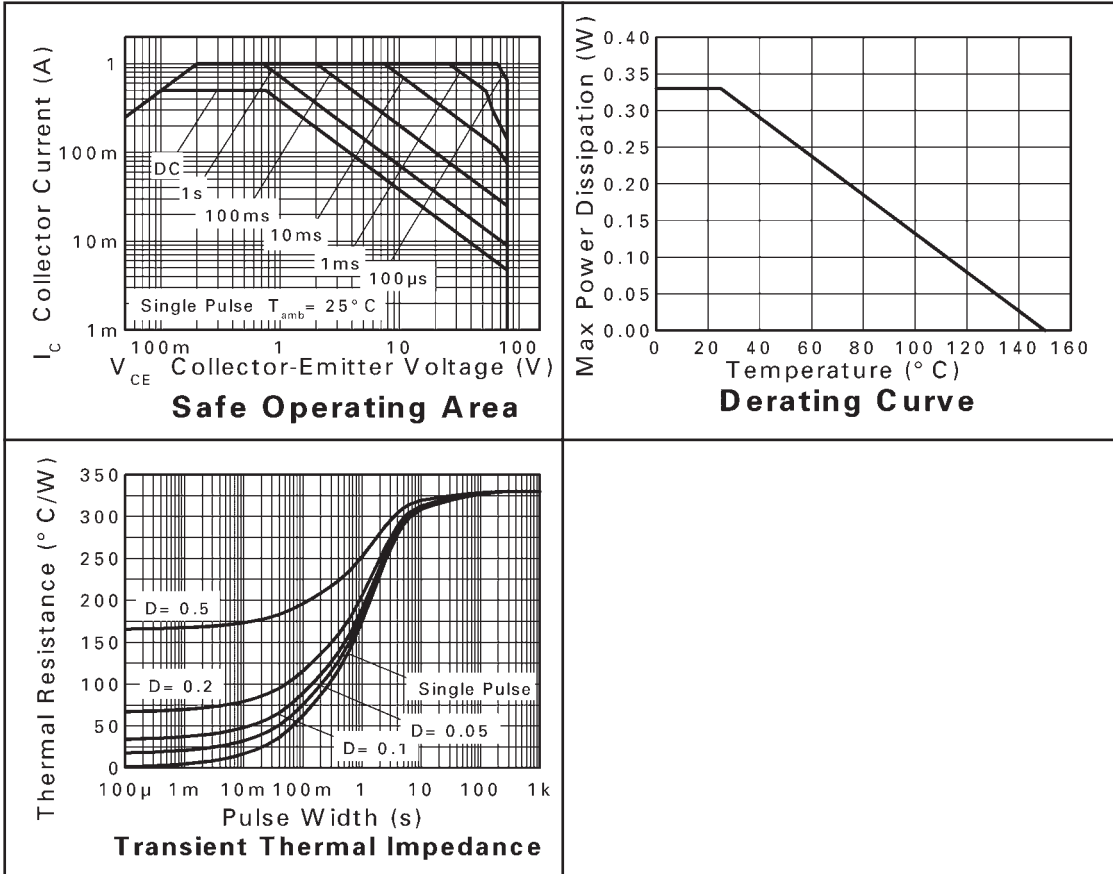
PARAMETER	SYMBOL	LIMIT	UNIT
Collector-base voltage	V_{CBO}	80	V
Collector-emitter voltage	V_{CEO}	80	V
Emitter-base voltage	V_{EBO}	4	V
Peak pulse current	I_{CM}	1	A
Continuous collector current	I_C	500	mA
Base current	I_B	100	mA
Power dissipation @ $T_A = 25^\circ\text{C}$	P_D	330	mW
Linear derating 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	$^\circ\text{C}/\text{W}$

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CHARACTERISTICS



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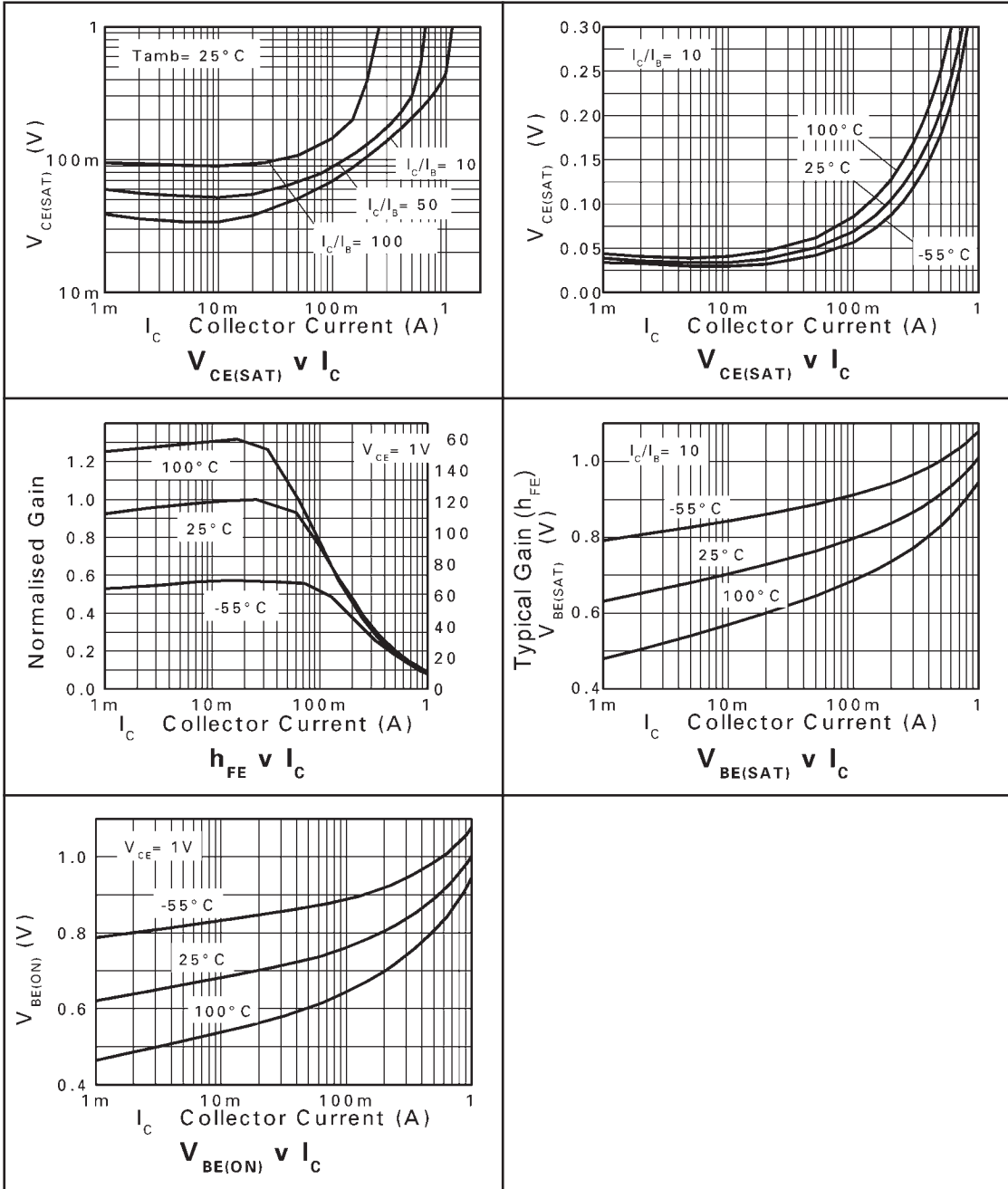
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated)

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

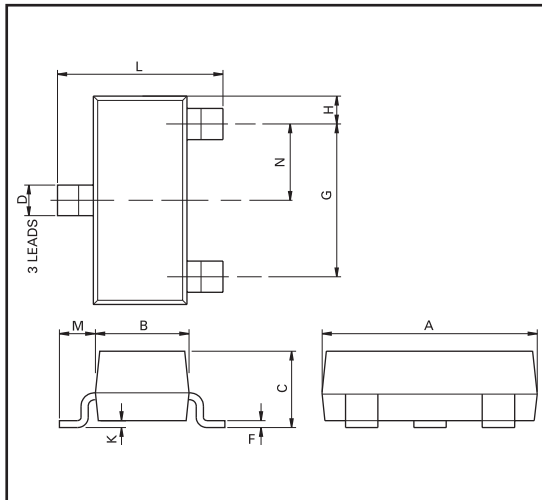
* Measured under pulsed conditions. Pulse width= 300 μ S. Duty cycle \leq 2%

TYPICAL CHARACTERISTICS



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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		—	—		—	

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