FMMTA06

SOT23 NPN SILICON PLANARMEDIUM POWER TRANSISTORS

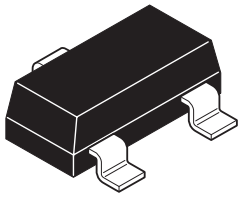
SUMMARY

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

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

DESCRIPTION

80V medium power NPN transistor in a compact SOT23 package

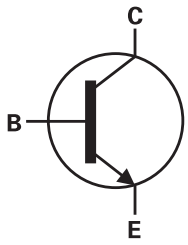


SOT23

FEATURES

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

SYMBOL



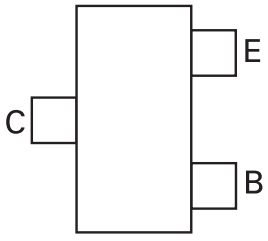
APPLICATIONS

- Low power motor driving circuits

ORDERING INFORMATION

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

PINOUT



TOP VIEW

DEVICE MARKING

- 1G

FMMTA06

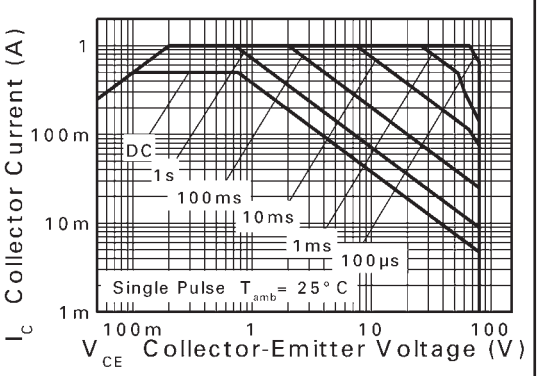
ABSOLUTE MAXIMUM RATINGS

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° C Linear derating factor	P_D	330 2.64	mW mW/° C
Operating and storage temperature	T_j;T_{stg}	-55 to + 150	° C

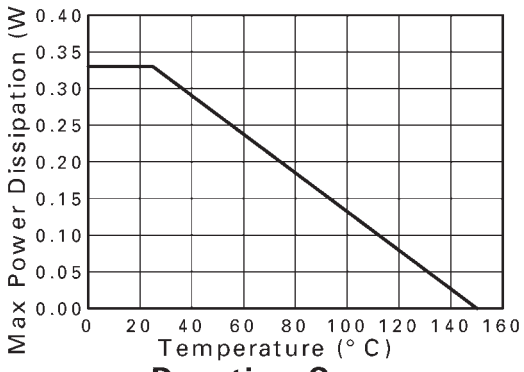
THERMAL RESISTANCE

PARAMETER	SYMBOL	VALUE	UNIT
Junction to ambient	$R\Theta_{JA}$	379	° C/W

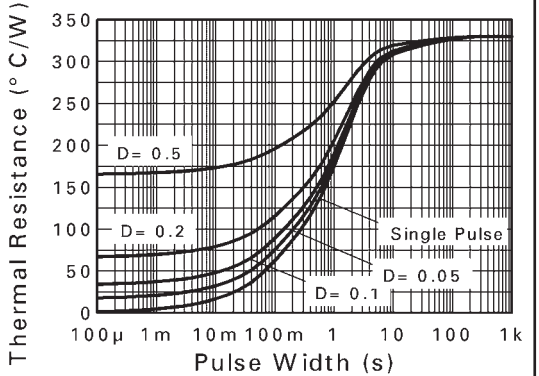
CHARACTERISTICS



Safe Operating Area



Derating Curve



Transient Thermal Impedance

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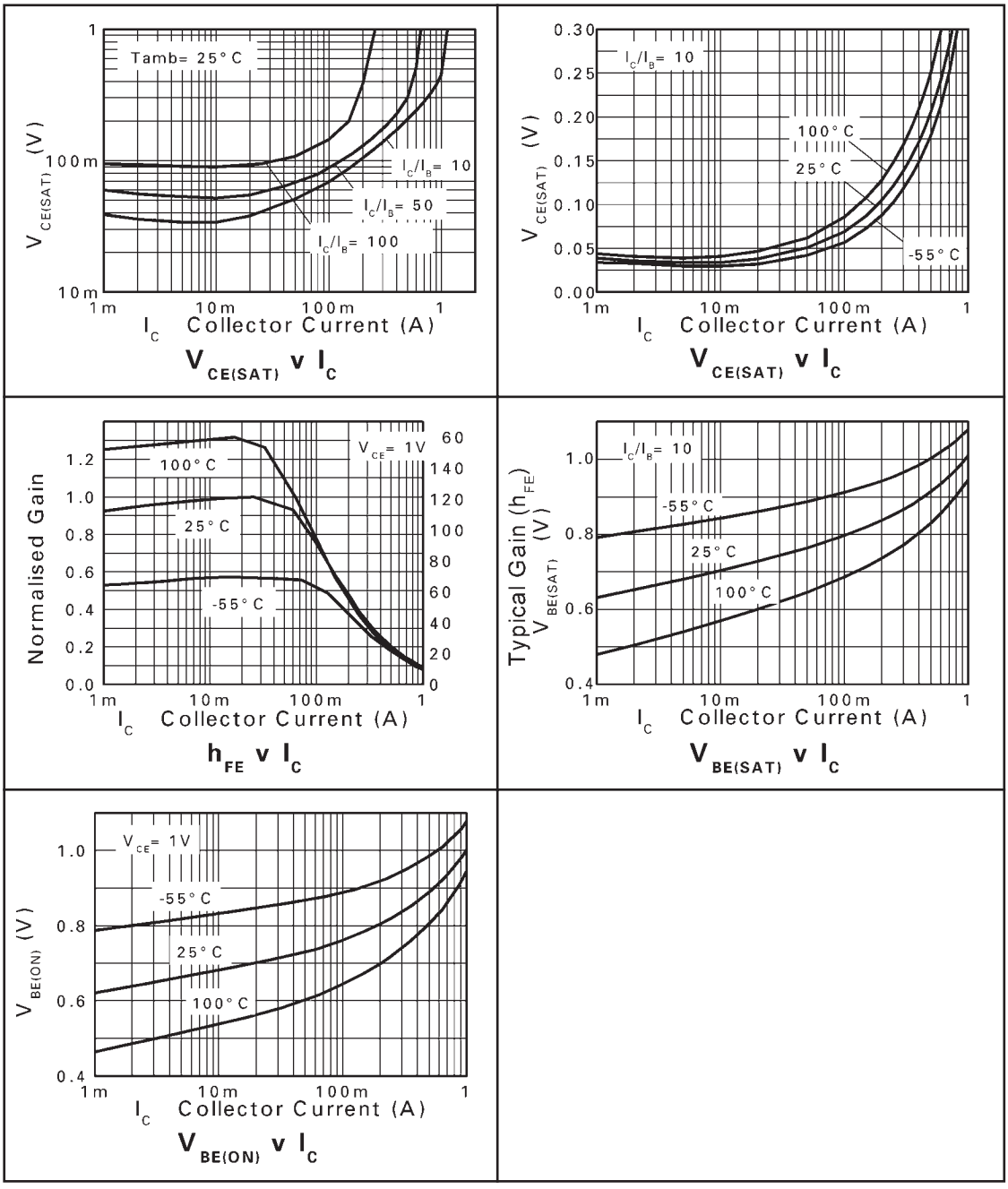
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25° C unless otherwise stated)

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= 100μA
Collector-emitter cut-off current	I_{CES}			100	nA	V_{CES}= 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

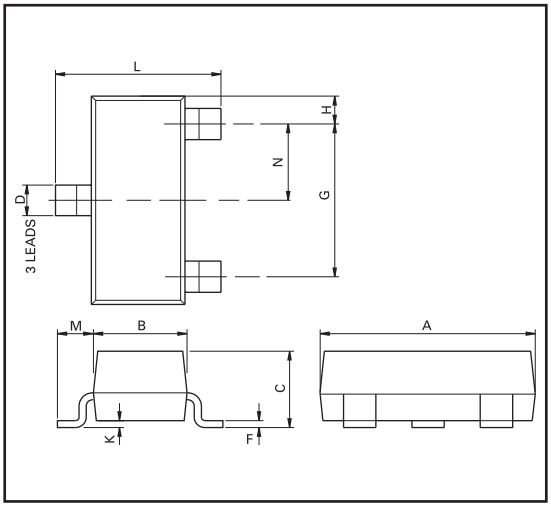
* Measured under pulsed conditions. Pulse width= 300μS. Duty cycle ≤2%

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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