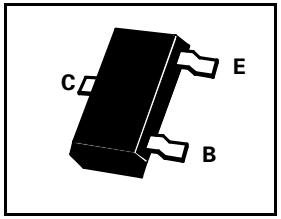
SOT23 NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTORS

FMMT38A
FMMT38B
FMMT38C

ISSUE 3 – AUGUST 1996

FEATURES

* 60 Volt V_{CEO}
* Gain of 10K at I_C=0.5 Amp



PARTMARKING DETAILS – FMMT38A – 4J
FMMT38B – 5J
FMMT38C – 7J

ABSOLUTE MAXIMUM RATINGS.

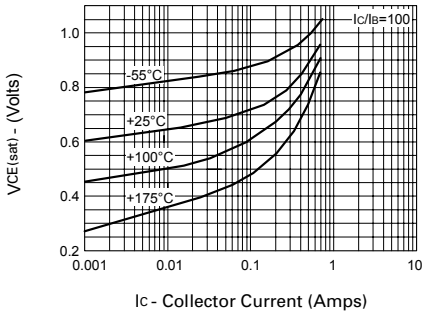
PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	10	V
Peak Pulse Current	I_{CM}	800	mA
Continuous Collector Current	I_C	300	mA
Power Dissipation at T_{amb}=25°C	P_{tot}	330	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C).

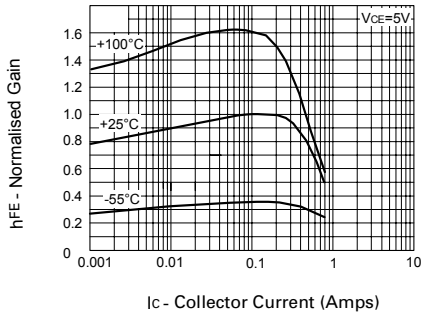
PARAMETER		SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	80		V	I_C=10μA, I_E=0
Collector-Emitter Sustaining Voltage		$V_{CEO(sus)}$	60		V	I_C=10mA, I_B=0
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	10		V	I_E=10μA, I_C=0
Collector Cut-Off Current		I_{CBO}		100	nA	V_{CB}=60V, I_E=0
Emitter Cut-Off Current		I_{EBO}		100	nA	V_{EB}=8V, I_C=0
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$		1.25	V	I_C=800mA, I_B=8mA*
Base-Emitter Turn-on Voltage		$V_{BE(on)}$		1.8	V	I_C=800mA, V_{CE}=5V*
Static Forward Current Transfer Ratio	FMMT38A	h_{FE}	500 1000			I_C=100mA, V_{CE}=5V* I_C=500mA, V_{CE}=5V*
	FMMT38B		2000 4000			I_C=100mA, V_{CE}=5V* I_C=500mA, V_{CE}=5V*
	FMMT38C		5000 10000			I_C=100mA, V_{CE}=5V* I_C=500mA, V_{CE}=5V*

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

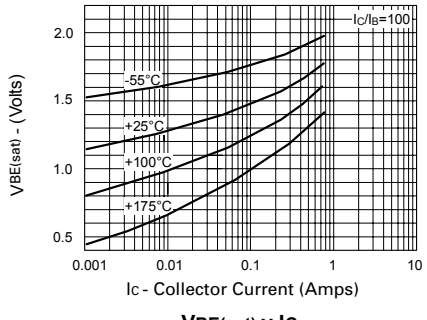
TYPICAL CHARACTERISTICS



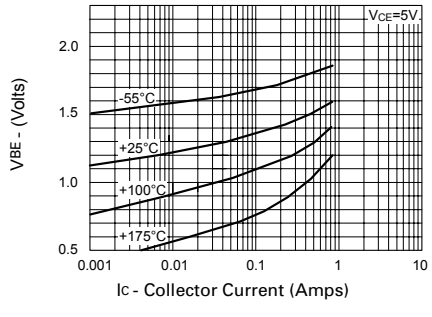
VCE(sat) v IC



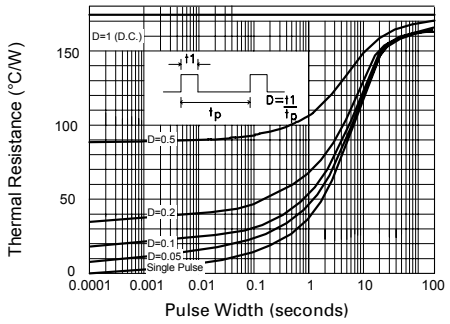
hFE v IC



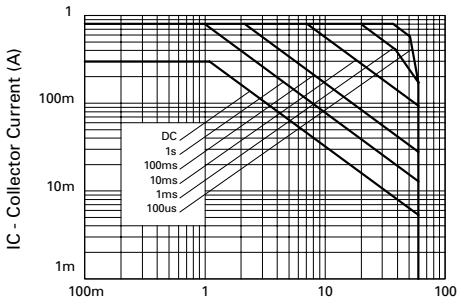
VBE(sat) v IC



VBE(on) v IC



Maximum transient thermal impedance



Safe Operating Area

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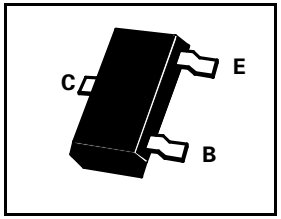

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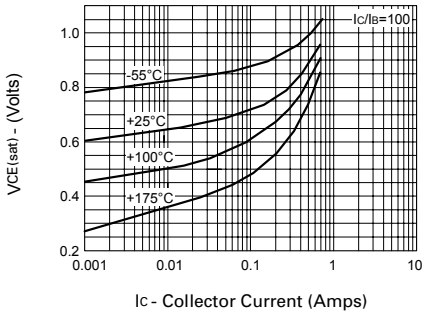
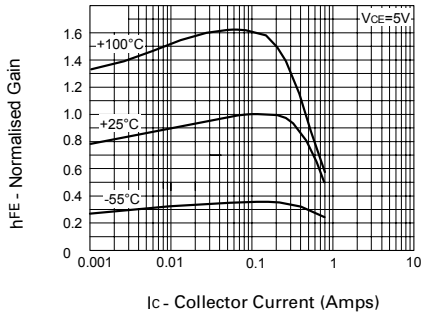
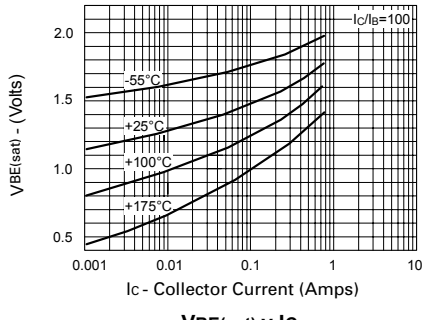


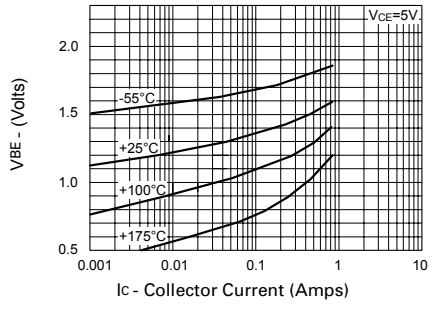
VCE(sat) v IC



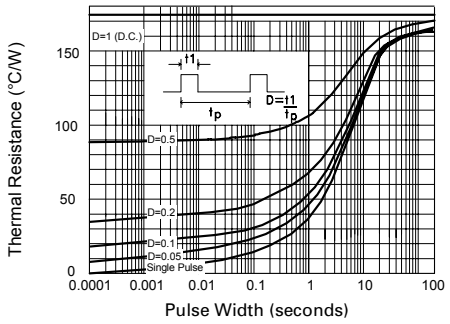
hFE v IC



VBE(sat) v IC



VBE(on) v IC



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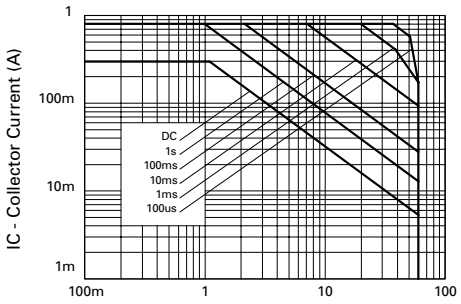

Safe Operating Area

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