SOT23 NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTOR

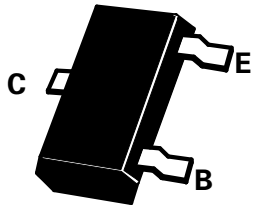
FMMT614

ISSUE 3 – APRIL 1996

FEATURES

* h_{FE} up to 5k at I_c= 500mA
* Fast switching
* Low $V_{CE(sat)}$ at High I_c

PARTMARKING DETAILS – 614



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	120	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	10	V
Peak Pulse Current	I_{CM}	2	A
Continuous Collector Current	I_C	500	mA
Power Dissipation at T_{amb}=25°C	P_{tot}	500	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	120	300		V	I_C=10µA, I_E=0
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	100	130		V	I_C=10mA, I_B=0*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	10	14		V	I_E=10µA, I_C=0
Collector Cut-Off Current	I_{CBO}		0.02	10	nA	V_{CB}=100V, I_E=0
Collector Cut-Off Current	I_{CES}			10	µA	V_{CES}=100V, I_E=0
Emitter Cut-Off Current	I_{EBO}			100	nA	V_{EB}=8V, I_C=0
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.9 0.78	1.0 0.9	V V	I_C=500mA, I_B=5mA* I_C=100mA, I_B=0.1mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.7	1.9	V	I_C=500mA, I_B=5mA*
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1.5	1.8	V	I_C=500mA, V_{CE}=5V*
Static Forward Current Transfer Ratio	h_{FE}	15K 5K				I_C=100mA, V_{CE}=5V* I_C=500mA, V_{CE}=5V*
Output Capacitance	C_{obo}		6		pF	V_{CB}=10V, f=100mHz
Switching Times	t_{on}		0.7		µs	I_C=100µA, I_B=0.1mA V_S=10V
	t_{off}		2.5		µs	

*Measured under pulsed conditions. Pulse Width=300µs. Duty cycle ≤2%
Spice parameter data is available upon request for this device
Typical Characteristics graphs are in preparation. Contact your local Sales office for more information.

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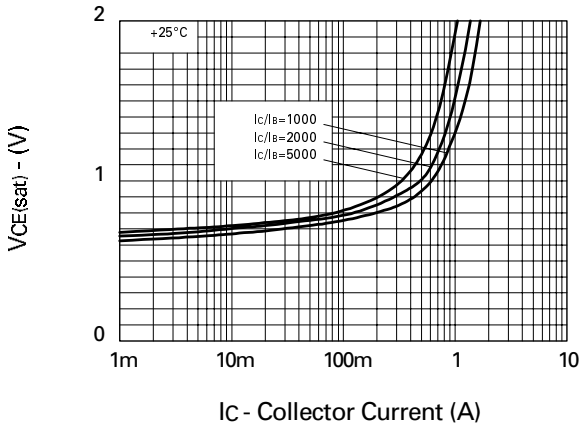
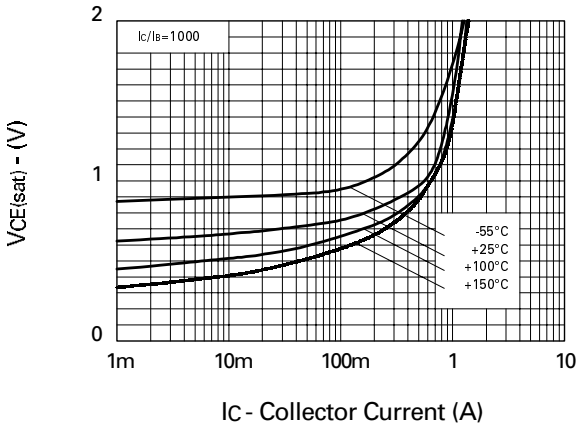
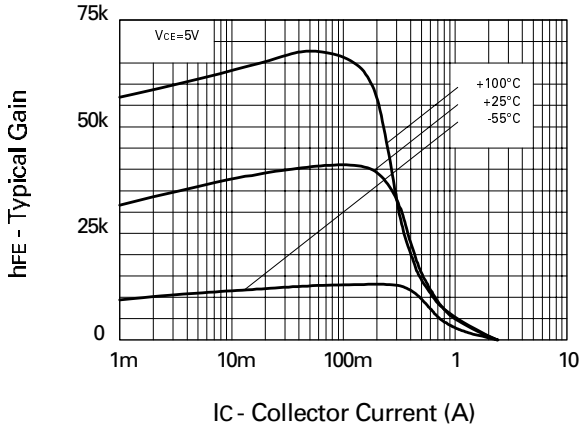
TYPICAL CHARACTERISTICS



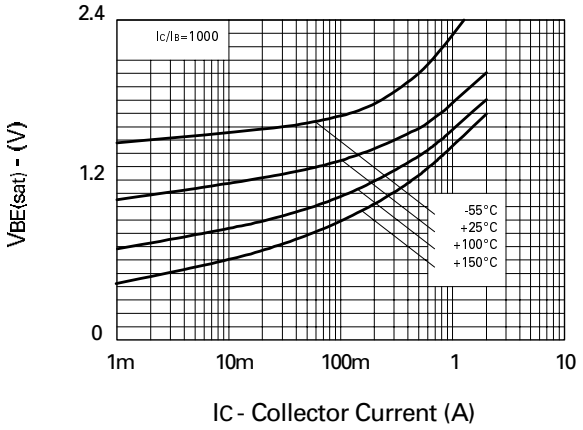
VCE(sat) v IC



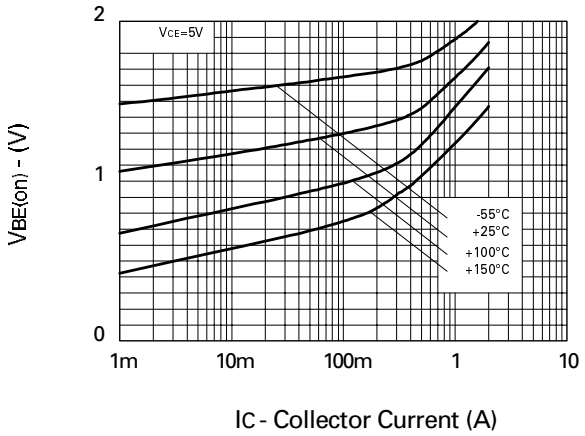
VCE(sat) v IC



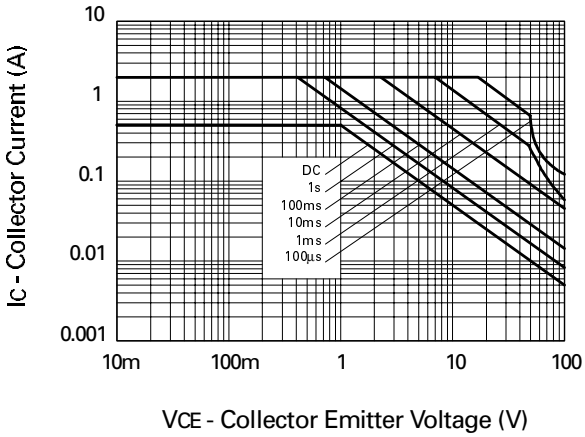
hFE v IC



VBE(sat) v IC



VBE(on) v IC



Safe Operating Area

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