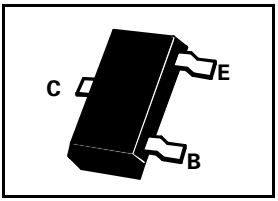
SOT23 NPN SILICON PLANAR HIGH GAIN MEDIUM POWER TRANSISTOR

FMMTL618

ISSUE 1 – NOVEMBER 1997

FEATURES

Very low equivalent on-resistance; $\mathbf{R_{CE(sat)}}$=140mΩ at 1.25A



COMPLEMENTARY TYPE – FMMTL718

PARTMARKING DETAIL – L68

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	1.25	A
Peak Pulse Current	I_{CM}	4	A
Base Current	I_B	200	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

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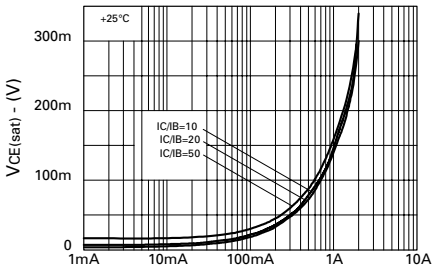
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C).

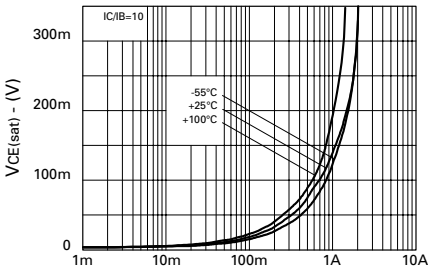
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	60	105		V	I_C=100μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	20	30		V	I_C=10mA*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	8.5		V	I_E=100μA
Collector Cut-Off Current	I_{CBO}			10	nA	V_{CB}=16V
Emitter Cut-Off Current	I_{EBO}			10	nA	V_{EB}=4V
Collector Cut-Off Current	I_{CES}			10	nA	V_{CE}=16V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		18 80 130 170 260	35 160 200 280 350	mV mV mV mV mV	I_C=100mA, I_B=10mA* I_C=500mA, I_B=25mA* I_C=1A, I_B=100mA* I_C=1.25A, IB=100mA* I_C=2A, I_B=200mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1000	1100	mV	I_C=1.25A, I_B=100mA*
Base-Emitter Turn On Voltage	$V_{BE(on)}$		850	1000	mV	I_C=1.25A, V_{CE}=2V*
Static Forward Current Transfer Ratio	h_{FE}	200 300 250 200 100 50	400 440 400 300 190 100			I_C=10mA, V_{CE}=2V I_C=200mA, V_{CE}=2V* I_C=500mA, V_{CE}=2V* I_C=1A, V_{CE}=2V* I_C=2A, V_{CE}=2V* I_C=3A, V_{CE}=2V*
Transition Frequency	f_T		195		MHz	I_C=50mA, V_{CE}=10V f=100MHz
Collector-Base Breakdown Voltage	C_{obo}		9	12	pF	V_{CB}=10V, f=1MHz
Switching times	t_{on} t_{off}		72 388		ns ns	I_C=1A, V_{CC}=10V I_{B1}=-I_{B2}=10mA

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

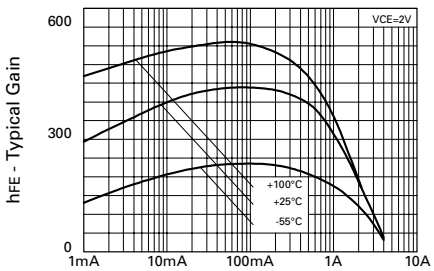
TYPICAL CHARACTERISTICS



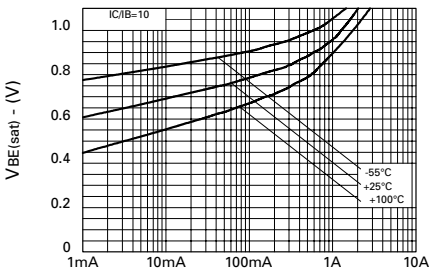
VCE(sat) v IC



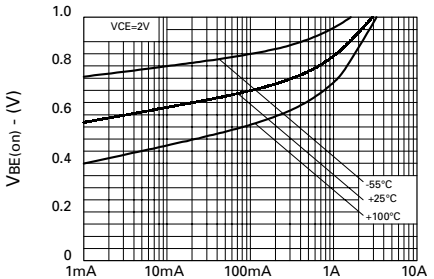
VCE(sat) v IC



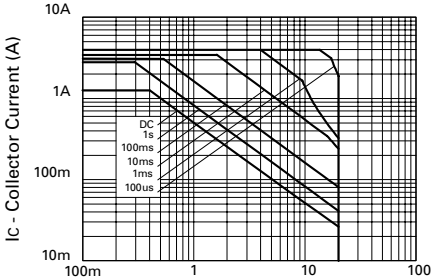
hFE v IC



VBE(sat) v IC



VBE(on) v IC



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