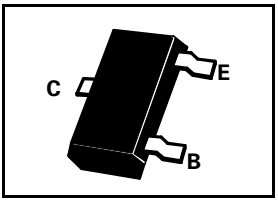
SOT23 NPN SILICON PLANAR HIGH GAIN MEDIUM POWER TRANSISTOR

FMMTL619

ISSUE 2 – NOVEMBER 2005

FEATURES
Very low equivalent on-resistance; $\mathbf{R_{CE(sat)}}$=160mΩ at 1.25A



COMPLEMENTARY TYPE – FMMTL720

PARTMARKING DETAIL – L69

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	1.25	A
Peak Pulse Current	I_{CM}	2	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

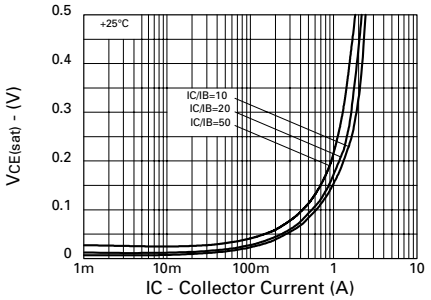
FMMTL619

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

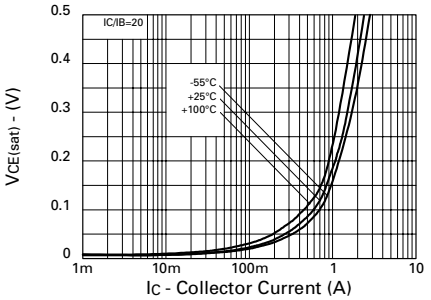
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	100	210		V	I_C=100μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	50	70		V	I_C=5mA*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	8.5		V	I_E=100μA
Collector Cut-Off Current	I_{CBO}			10	nA	V_{CB}=40V
Emitter Cut-Off Current	I_{EBO}			10	nA	V_{EB}=4V
Collector Cut-Off Current	I_{CES}			10	nA	V_{CE}=40V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		24 60 100 195	45 100 180 330	mV mV mV mV	I_C=100mA, I_B=10mA* I_C=250mA, I_B=10mA* I_C=500mA, I_B=25mA* I_C=1.25A, I_B=125mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1020	1100	mV	I_C=1.25A, I_B=125mA*
Base-Emitter Turn On Voltage	$V_{BE(on)}$		895	1000	mV	I_C=1.25A, V_{CE}=2V*
Static Forward Current Transfer Ratio	h_{FE}	200 300 200 100 30	400 450 400 230 50			I_C=10mA, V_{CE}=5V I_C=200mA, V_{CE}=5V* I_C=500mA, V_{CE}=5V* I_C=1A, V_{CE}=5V* I_C=2A, V_{CE}=5V*
Transition Frequency	f_T		180		MHz	I_C=50mA, V_{CE}=10V f=100MHz
Collector-Base Breakdown Voltage	C_{obo}		6	8	pF	V_{CB}=10V, f=1MHz
Switching times	t_{on} t_{off}		182 379		ns ns	I_C=1A, V_{CC}=10V I_{B1}=-I_{B2}=10mA

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

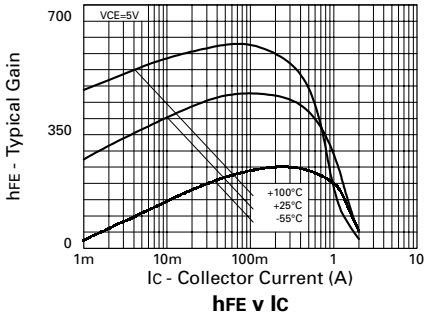
TYPICAL CHARACTERISTICS



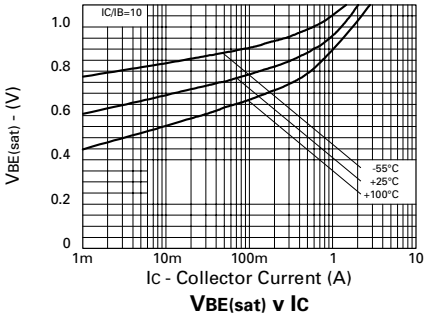
VCE(sat) v IC



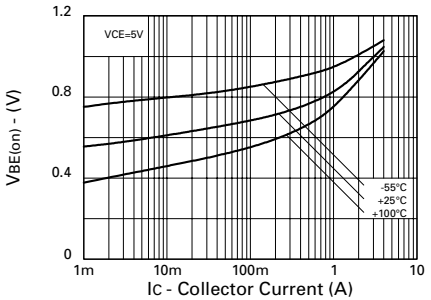
VCE(sat) v IC



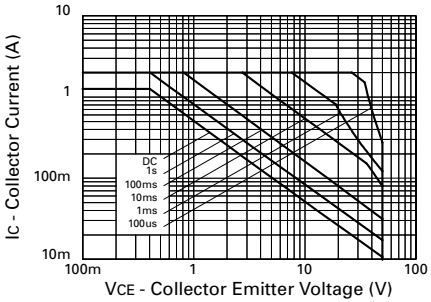
hFE v IC



VBE(sat) v IC



VBE(on) v IC



Safe Operating Area