

SOT23 NPN SILICON PLANAR HIGH GAIN
MEDIUM POWER TRANSISTOR

FMMTL618

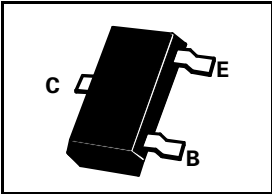
ISSUE 1 – NOVEMBER 1997

FEATURES

Very low equivalent on-resistance; $R_{CE(sat)}=140m\Omega$ 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 $T_{amb}=25^{\circ}C$	P_{tot}	500	mW
Operating and Storage Temperature Range	$T_j;T_{stg}$	-55 to +150	$^{\circ}C$

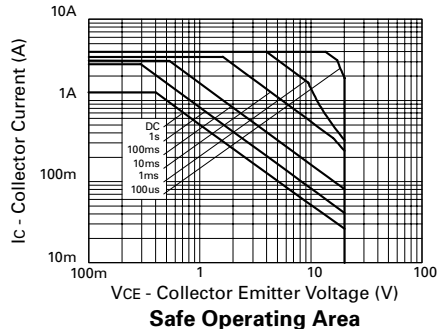
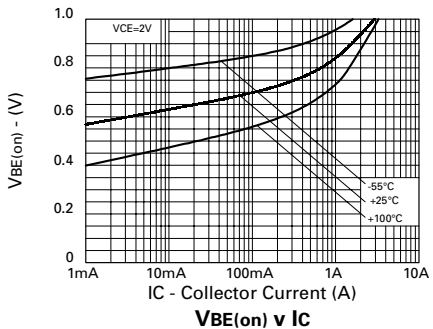
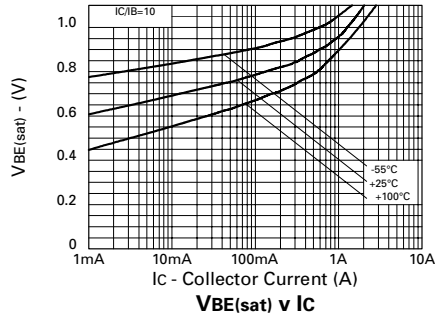
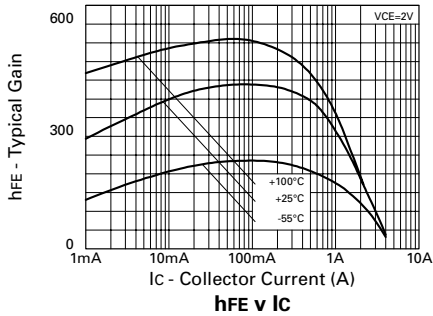
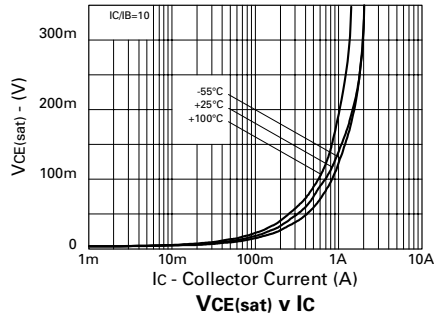
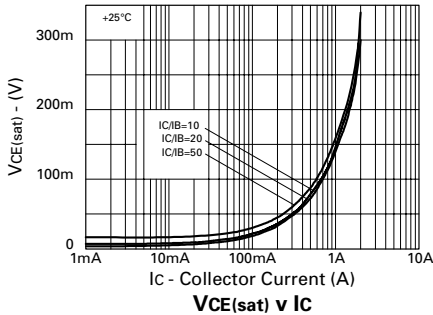
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ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$).

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

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

TYPICAL CHARACTERISTICS



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