

SOT23 NPN SILICON PLANAR RF TRANSISTOR

ISSUE 2 – NOVEMBER, 1995

FEATURES

- * High $f_T=650\text{MHz}$
- * Maximum capacitance 0.7pF
- * Low noise $< 5\text{dB}$ at 500MHz

PARTMARKING DETAIL – 3EZ

ABSOLUTE MAXIMUM RATINGS.

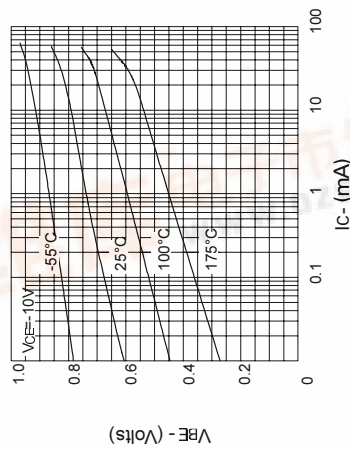
PARAMETER	SYMBOL	VALUE	UNIT
Collector-Emitter Voltage	V_{CES}	30	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	3	V
Continuous Collector Current	I_C	25	mA
Peak Pulse Current	I_{CM}	50	mA
Power Dissipation at $T_{amb}=25^\circ\text{C}$	P_{tot}	330	mW
Operating and Storage Temperature Range	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

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

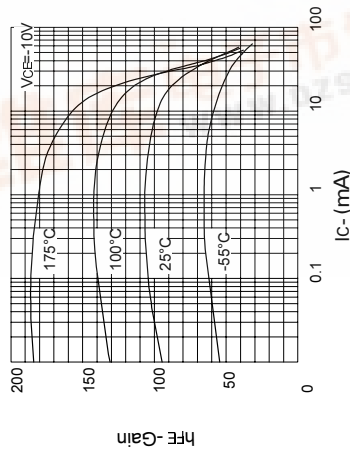
PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	30		V	$I_C=100\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	25		V	$I_C=1\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	3		V	$I_E=10\mu\text{A}, I_C=0$
Collector Cut-Off Current	I_{CBO}		100	nA	$V_{CB}=25\text{V}, I_E=0$
Emitter Cut-Off Current	I_{EBO}		100	nA	$V_{EB}=2\text{V}, I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.5	V	$I_C=4\text{mA}, I_B=0.4\text{mA}$
Common Base Feedback Capacitance	C_{fb}	Typ. 0.45		pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		0.95	V	$I_C=4\text{mA}, V_{CE}=10\text{V}$
Static Forward Current Transfer Ratio	h_{FE}	60			$I_C=4\text{mA}, V_{CE}=10\text{V}^*$
Transition Frequency	f_T	650		MHz	$I_C=4\text{mA}, V_{CE}=10\text{V}, f=100\text{MHz}$
Collector Base Capacitance	C_{cb}		0.7	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$
Collector Base Time Constant	τ_b, C_c		9	ps	$I_C=4\text{mA}, V_{CB}=10\text{V}, f=31.8\text{MHz}$
Noise Figure	N_f	Typ. 3	5	dB	$I_C=2\text{mA}, V_{CE}=5\text{V}, f=500\text{MHz}$

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

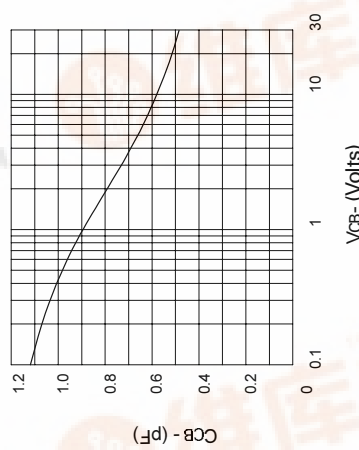
TYPICAL CHARACTERISTICS



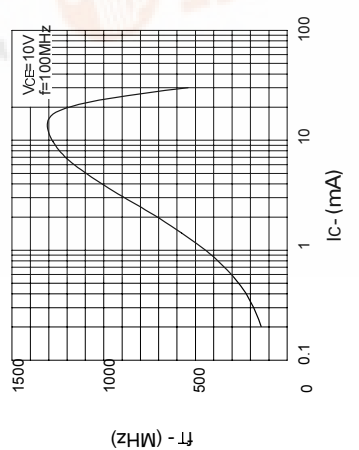
$V_{BE(on)} \text{ vs } I_C$



$h_{FE} \text{ vs } I_C$

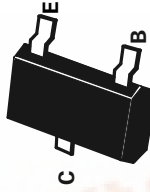


$C_{CB} \text{ vs } V_{CB}$



$f_T \text{ vs } I_C$

FMMTH10



SOT23

查询FMMTH10供应商

捷多邦, 专业PCB打样工厂, 24小时加急出货

FMMTH10



**SOT23 NPN SILICON PLANAR
RF TRANSISTOR**

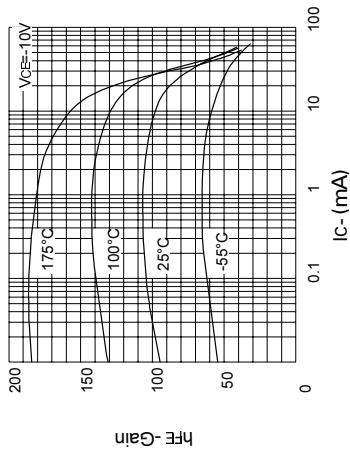
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FEATURES

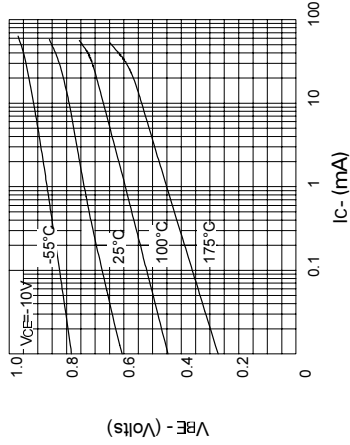
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- * Maximum capacitance 0.7pF
- * Low noise < 5dB at 500MHz

PARTMARKING DETAIL – 3EZ

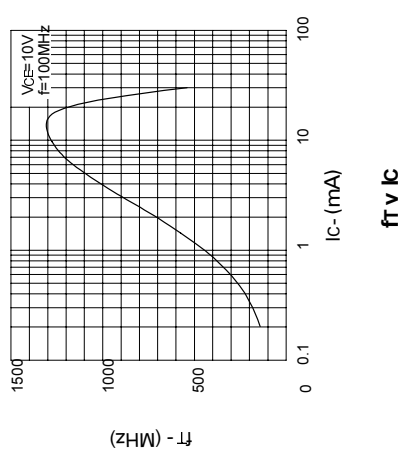
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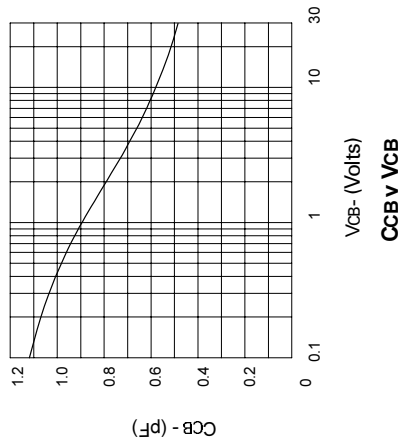
hFE v IC



VBE(on) v IC



fT v IC



CCB v VCB

ABSOLUTE MAXIMUM RATINGS.

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Static Forward Current Transfer Ratio	h_{FE}	60			$I_C=4\text{mA}, V_{CE}=10\text{V}^*$
Transition Frequency	f_T	650		MHz	$I_C=4\text{mA}, V_{CE}=10\text{V}, f=100\text{MHz}$
Collector Base Capacitance	C_{cb}		0.7	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$
Collector Base Time Constant	τ_b, C_c		9	ps	$I_C=4\text{mA}, V_{CB}=10\text{V}, f=31.8\text{MHz}$
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