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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# SOT23 NPN SILICON PLANAR HIGH FREQUENCY TRANSISTOR

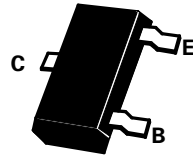
## FMMT5179

ISSUE 3 - JANUARY 1996

### FEATURES

- \* High  $f_T=900\text{MHz}$  Min
- \* Max capacitance=1pF
- \* Low noise 4.5dB

PARTMARKING DETAIL - 179



SOT23

### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	20	V
Collector-Emitter Voltage	$V_{CEO}$	12	V
Emitter-Base Voltage	$V_{EBO}$	2.5	V
Continuous Collector Current	$I_C$	50	mA
Power Dissipation	$P_{tot}$	330	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	°C

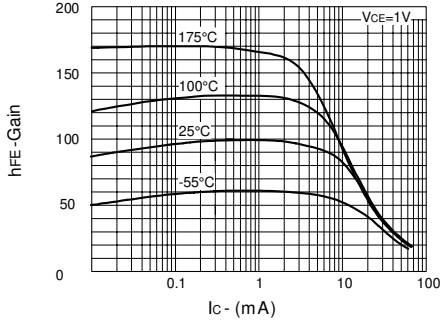
### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Emitter Sustaining Voltage	$V_{CEO(SUS)}$	12		V	$I_C=3\text{mA}, I_B=0$
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	20		V	$I_C=1\mu\text{A}, I_E=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	2.5		V	$I_E=10\mu\text{A}, I_C=0$
Collector Cut-Off Current	$I_{CBO}$		0.02 1.0	$\mu\text{A}$ $\mu\text{A}$	$V_{CB}=15\text{V}, I_E=0$ $V_{CB}=15\text{V}, I_E=0, T_{amb}=150^\circ\text{C}$
Static Forward Current Transfer Ratio	$h_{FE}$	25	250		$I_C=3\text{mA}, V_{CE}=1\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.4	V	$I_C=10\text{mA}, I_B=1\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.0	V	$I_C=10\text{mA}, I_B=1\text{mA}$
Transition Frequency	$f_T$	900	2000	MHz	$I_C=5\text{mA}, V_{CE}=6\text{V}, f=100\text{MHz}$
Collector-Base Capacitance	$C_{cb}$		1	pF	$I_E=0, V_{CB}=10\text{V}, f=1\text{MHz}$
Small Signal Current Gain	$h_{fe}$	25	300		$I_C=2\text{mA}, V_{CE}=6\text{V}, f=1\text{KHz}$
Collector Base Time Constant	$r_b'C_c$	3	14	ps	$I_E=2\text{mA}, V_{CB}=6\text{V}, f=31.9\text{MHz}$
Noise Figure	$N_F$		4.5	dB	$I_C=1.5\text{mA}, V_{CE}=6\text{V}$ $R_S=50\Omega, f=200\text{MHz}$
Common-Emitter Amplifier Power Gain	$G_{pe}$	15		dB	$I_C=5\text{mA}, V_{CE}=6\text{V}$ $f=200\text{MHz}$

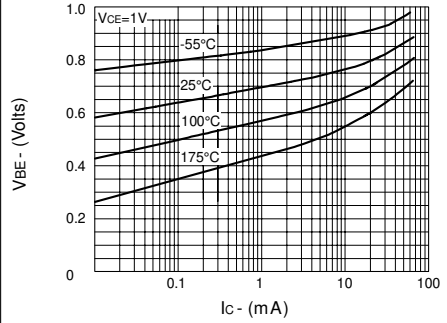
Spice parameter data is available upon request for this device

# FMMT5179

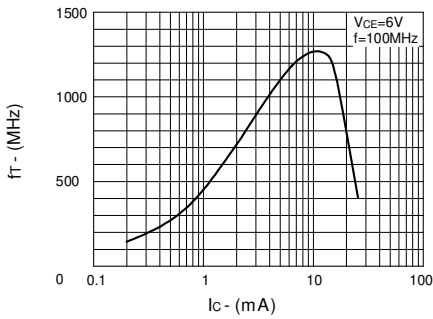
## TYPICAL CHARACTERISTICS



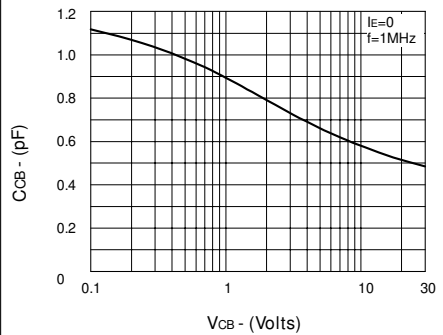
**$h_{FE}$  v  $I_C$**



**$V_{BE(on)}$  v  $I_C$**



**$f_T$  v  $I_C$**



**$C_{CB}$  v  $V_{CB}$**