

SOT23 NPN SILICON PLANAR HIGH PERFORMANCE TRANSISTOR

FMMT451

ISSUE 3 - OCTOBER 1995

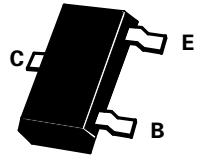


FEATURES

- * Low equivalent on-resistance; $R_{CE(sat)}$ **400mΩ at 1A**
- * 1 Amp continuous current
- * P_{tot} = 500 mW

COMPLEMENTARY TYPE – FMMT551

PARTMARKING DETAIL – 451



ABSOLUTE MAXIMUM RATINGS.

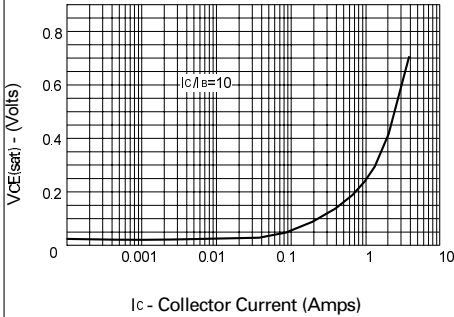
PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5	V
Peak Pulse Current	I_{CM}	2	A
Continuous Collector Current	I_C	1	A
Base Current	I_B	200	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	500	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$

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

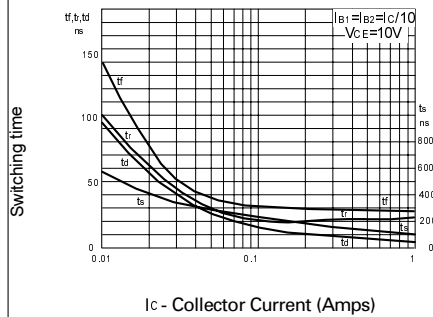
PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	80		V	$I_C=100\mu A$
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	60		V	$I_C=10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		V	$I_E=100\mu A$
Collector Cut-Off Current	I_{CBO}		0.1	μA	$V_{CB}=60V$
Emitter Cut-Off Current	I_{EBO}		0.1	μA	$V_{EB}=4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.35	V	$I_C=150mA, I_B=15mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.1	V	$I_C=150mA, I_B=15mA^*$
Static Forward Current Transfer Ratio	h_{FE}	50 10	150		$I_C=150mA, V_{CE}=10V^*$ $I_C=1A, V_{CE}=10V^*$
Transition Frequency	f_T	150		MHz	$I_C=50mA, V_{CE}=10V$ $f=100MHz$
Output Capacitance	C_{obo}		15	pF	$V_{CB}=10V, f=1MHz$

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

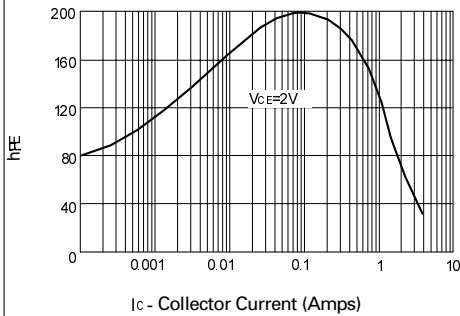
TYPICAL CHARACTERISTICS



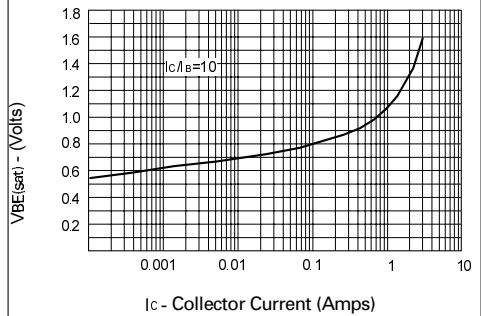
$V_{CE(sat)}$ v I_C



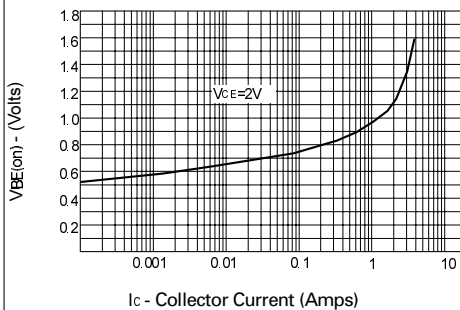
Switching Speeds



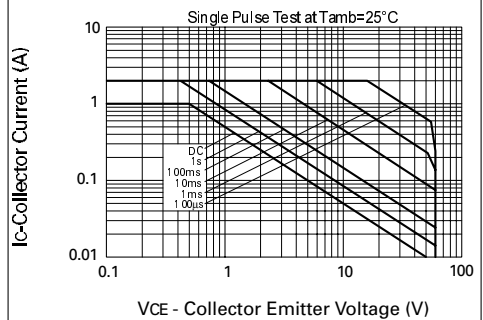
h_{FE} v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area