



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO.,LTD

SOT-323 Plastic-Encapsulate Transistors

MMST2222A TRANSISTOR (NPN)

FEATURES

- Epitaxial planar die construction
- Complementary PNP Type available(MMST2907A)

MARKING: K3P

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SOT-323



1. BASE

2. EMITTER

3. COLLECTOR

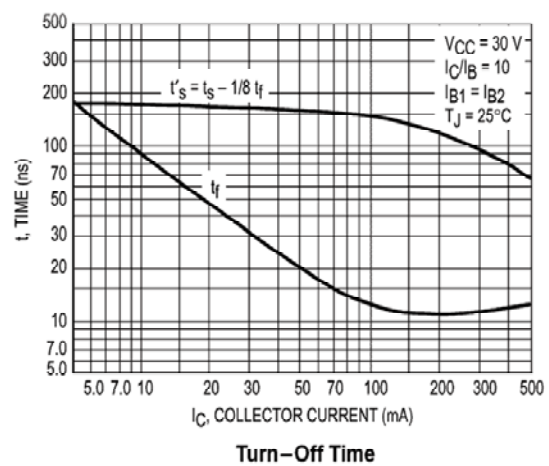
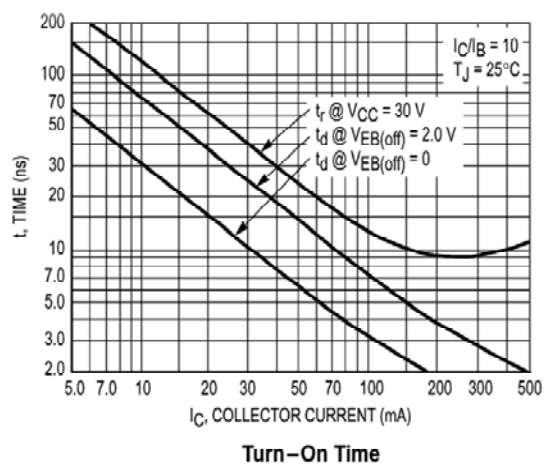
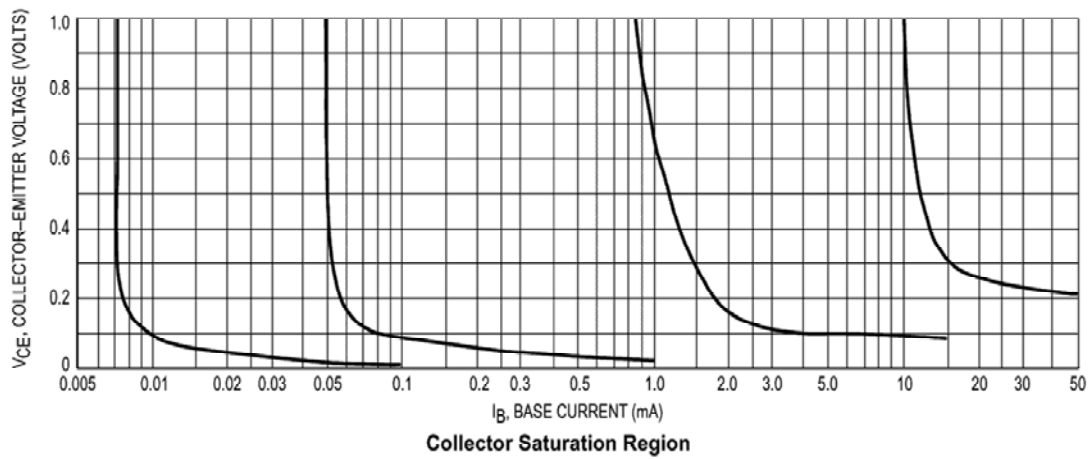
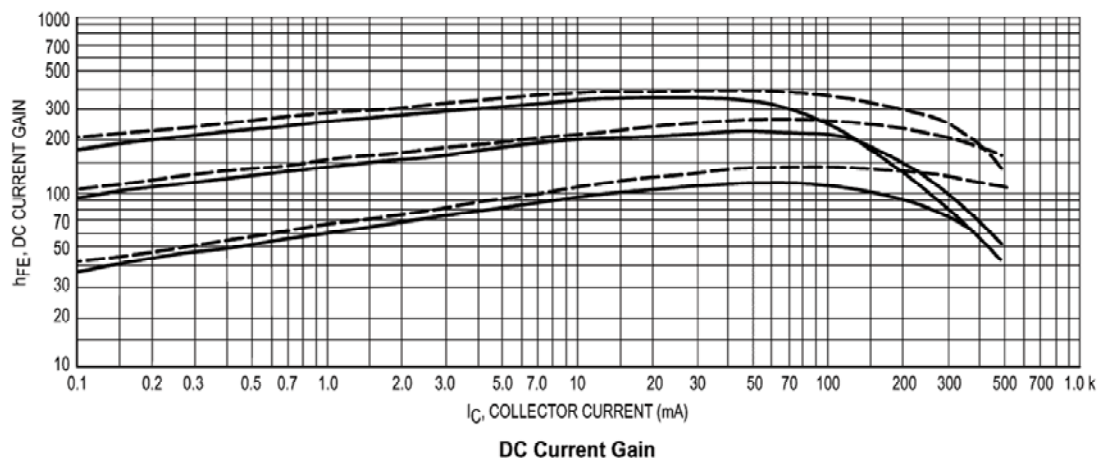
Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	600	mA
P_C	Collector Dissipation	200	mW
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55to+150	$^{\circ}\text{C}$

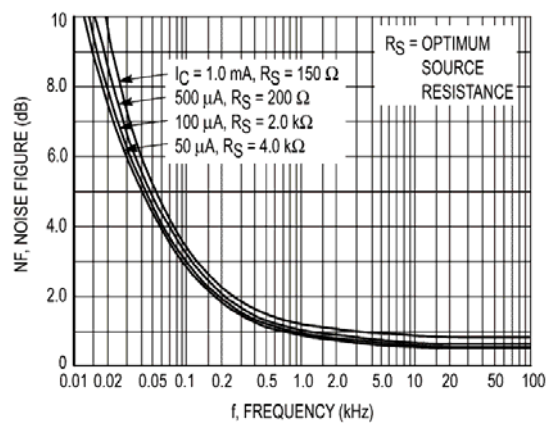
ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}$, $I_E=0$	75			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}$, $I_B=0$	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}$, $I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=70\text{V}$, $I_E=0$			100	nA
Collector cut-off current	I_{CEO}	$V_{CE}=35\text{V}$, $I_B=0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=3\text{V}$, $I_C=0$			100	nA
DC current gain	$h_{FE(1)}$	$V_{CE}=10\text{V}$, $I_C=0.1\text{mA}$	35			
	$h_{FE(2)}$	$V_{CE}=10\text{V}$, $I_C=1\text{mA}$	50			
	$h_{FE(3)}$	$V_{CE}=10\text{V}$, $I_C=10\text{mA}$	75			
	$h_{FE(4)}$	$V_{CE}=10\text{V}$, $I_C=150\text{mA}$	100		300	
	$h_{FE(5)}$	$V_{CE}=10\text{V}$, $I_C=500\text{mA}$	40			
	$h_{FE(6)}$	$V_{CE}=1\text{V}$, $I_C=150\text{mA}$	35			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$ $I_C=150\text{mA}$, $I_B=15\text{mA}$			1 0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$ $I_C=150\text{mA}$, $I_B=15\text{mA}$			2.0 1.2	V
Transition frequency	f_T	$V_{CE}=20\text{V}$, $I_C=20\text{mA}$ $f=100\text{MHz}$	300			MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$			8	pF
Delay time	t_d	$V_{CC}=30\text{V}$, $V_{BE(off)}=-0.5\text{V}$			10	nS
Rise time	t_r	$I_C=150\text{mA}$, $I_{B1}=15\text{mA}$			25	nS
Storage time	t_s	$V_{CC}=30\text{V}$, $I_C=150\text{mA}$			225	nS
Fall time	t_f	$I_{B1}=-I_{B2}=15\text{mA}$			60	nS

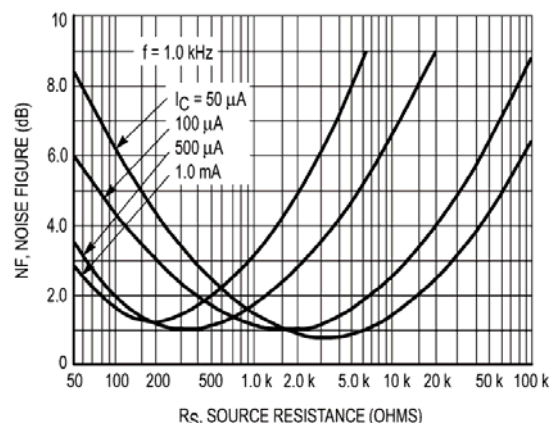
Typical characteristics

MMST2222A

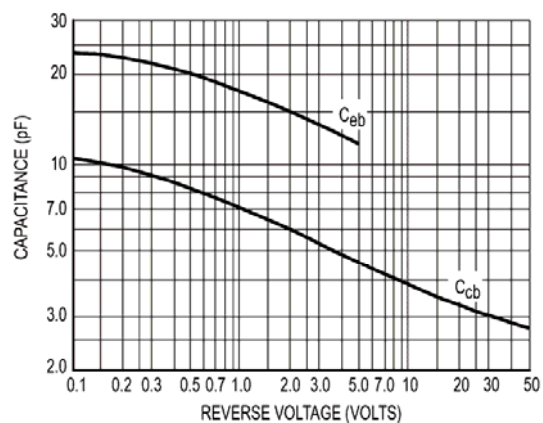




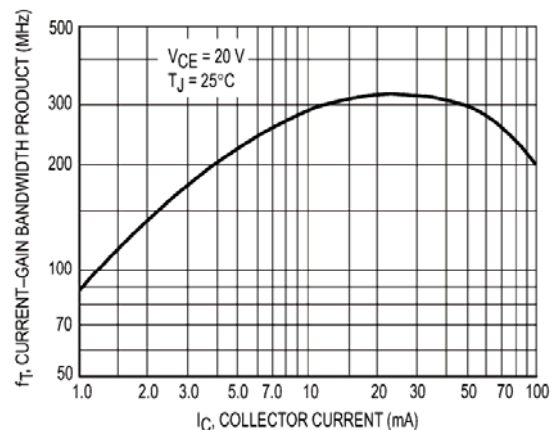
Frequency Effects



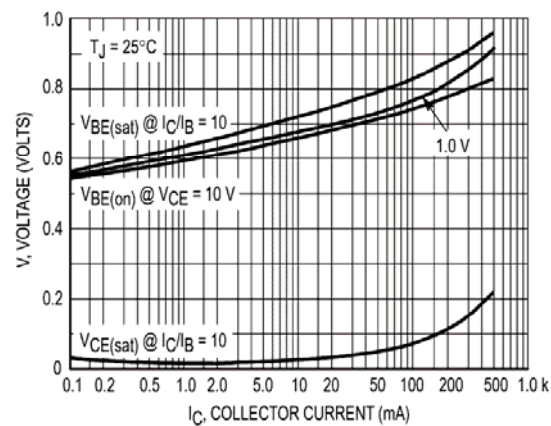
Source Resistance Effects



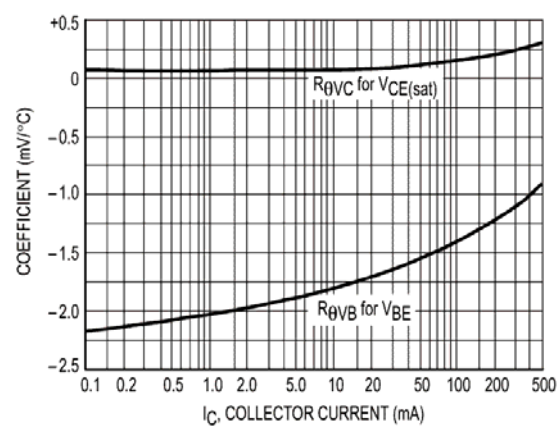
Capacitances



Current-Gain Bandwidth Product



"On" Voltages



Temperature Coefficients