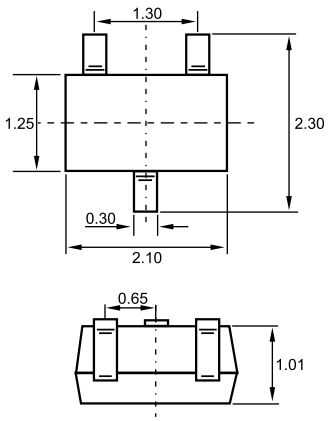
MMST2222A

SOT-323 Transistor (NPN)

1. BASE
2. EMITTER
3. COLLECTOR

SOT-323



Dimensions in inches and (millimeters)

Features

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

MARKING: K3P

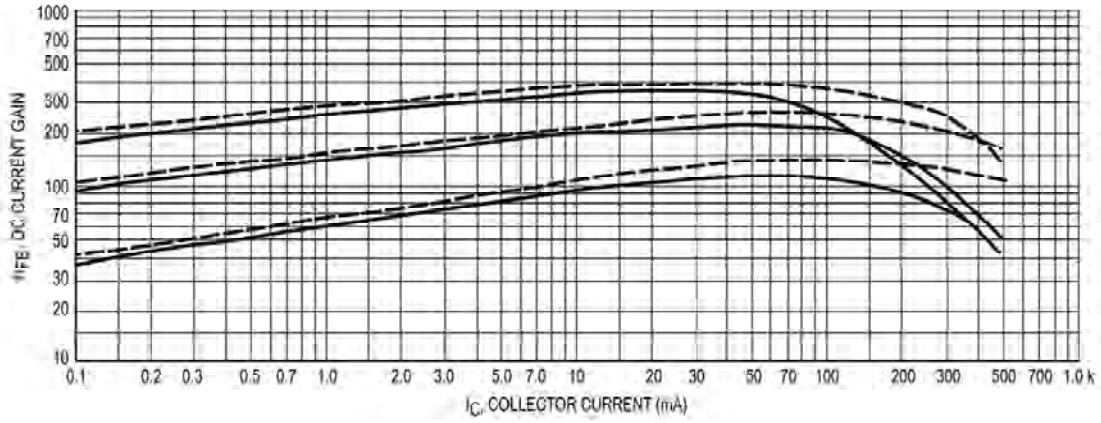
MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

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	℃
T_{stg}	Storage Temperature	-55to+150	℃

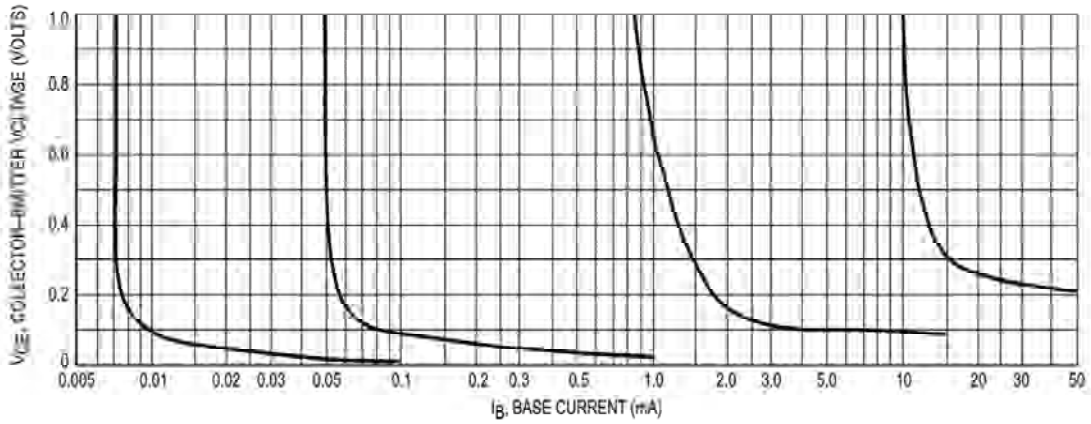
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

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

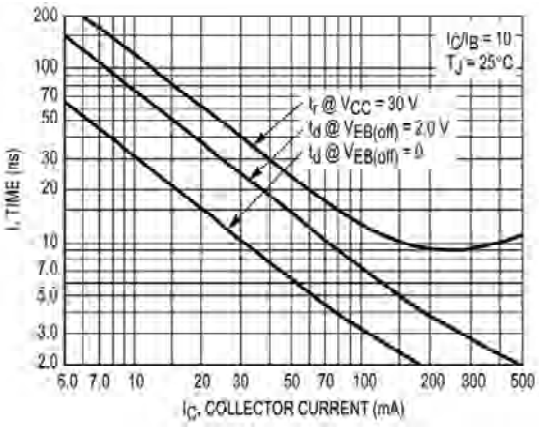
Typical characteristics



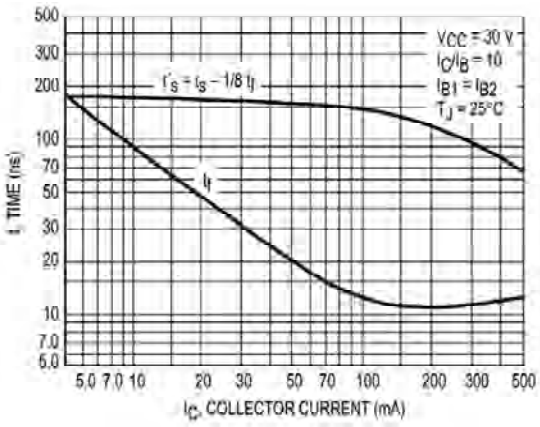
DC Current Gain



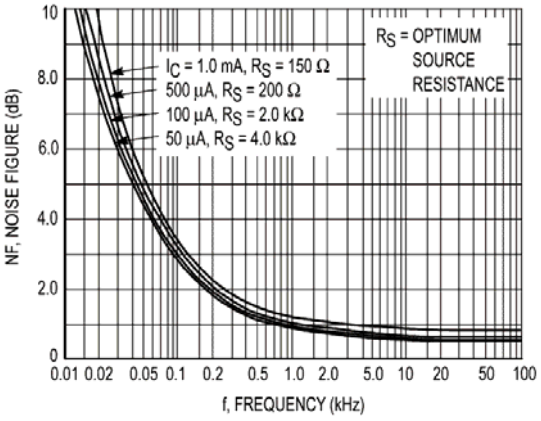
Collector Saturation Region



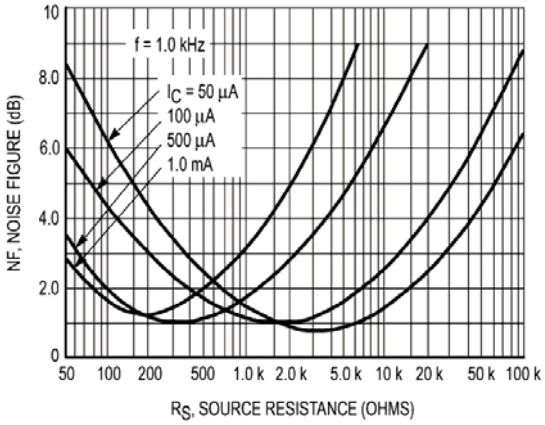
Turn–On Time



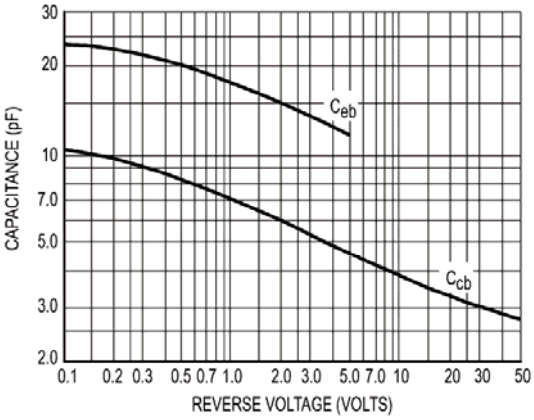
Turn–Off Time



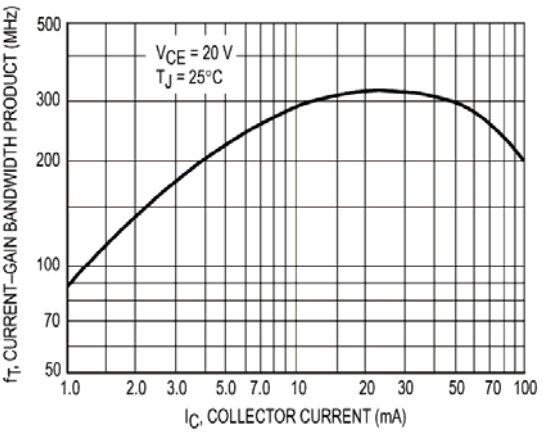
Frequency Effects



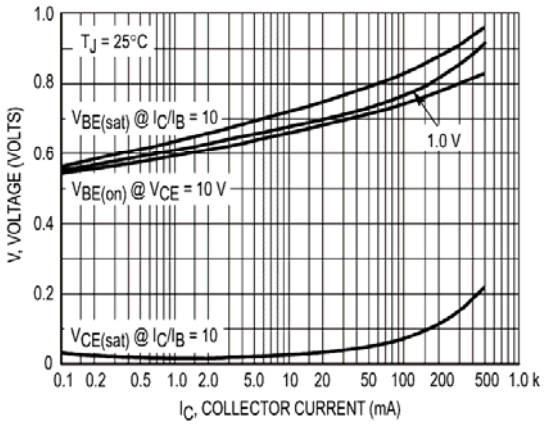
Source Resistance Effects



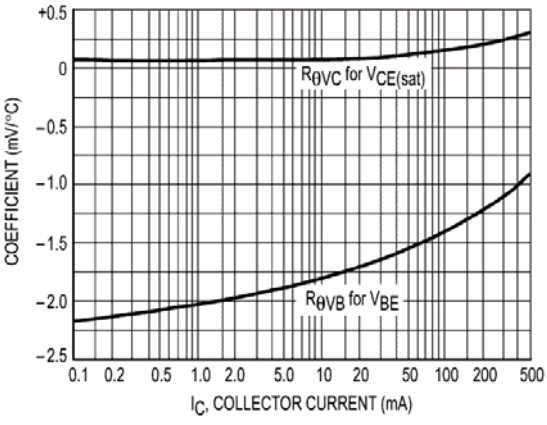
Capacitances



Current–Gain Bandwidth Product



"On" Voltages



Temperature Coefficients