General Purpose Transistor

MMST2222A-G (NPN)

RoHS Device

Features

-Power dissipation

P_{CM} : 0.2W (T_A=25 °C)

-Collector current

I_{CM} : 0.6A

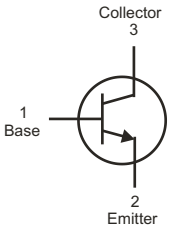
-Collector-base voltage

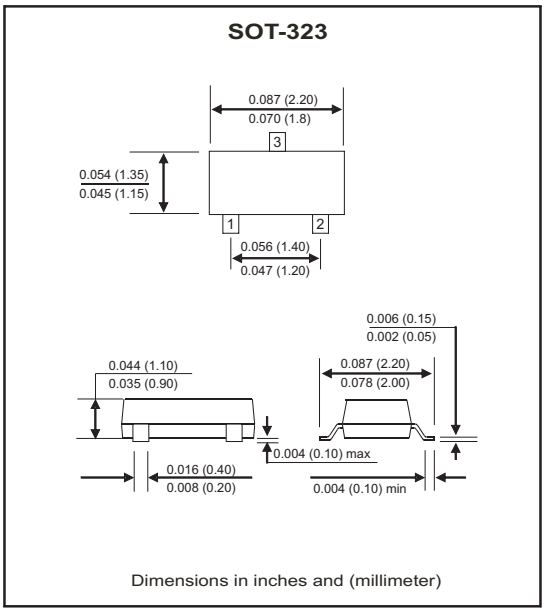
$V_{(BR)CBO}$: 75V

-Operating and storage junction temperature range

T_J, T_{STG} : -55 °C to +150 °C

Marking: K3P





Electrical Characteristics (at TA=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Max	Unit
Collector-Base breakdown voltage	I_C =10μA , I_E=0	$V_{(BR)CBO}$	75		V
Collector-Emitter breakdown voltage	I_C =10mA , I_B=0	$V_{(BR)CEO}$	40		V
Emitter-Base breakdown voltage	I_E =10μA , I_C=0	$V_{(BR)EBO}$	6		V
Collector cut-off current	V_{CB}=70V , I_E=0	I_{CBO}		0.1	μA
Collector cut-off current	V_{CE}=35V , I_B=0	I_{CEO}		0.1	μA
Emitter cut-off current	V_{EB}=3V , I_C=0	I_{EBO}		0.1	μA
DC current gain	V_{CE}=10V , I_C=150mA	$h_{FE(1)}$	100	300	
	V_{CE}=10V , I_C=1mA	$h_{FE(2)}$	50		
Collector-Emitter saturation voltage	I_C=500mA , I_B=50mA	V_{CE}(sat)		0.6	V
Base-Emitter saturation voltage	I_C=500mA , I_B=50mA	V_{BE}(sat)		1.2	V
Transition frequency	V_{CE}=20V , I_C=20mA f=100MHz	f_T	300		MHz
Output capacitance	V_{CB}=10V , I_E=0 f=1MHz	C_{ob}		8	pF
Delay time	V_{CC}=30V , I_C=150mA $V_{BE(off)}$=0.5V , I_{B1}=15mA	td		10	nS
Rise time		tr		25	nS
Storage time	V_{CC}=30V , I_C=150mA I_{B1}=I_{B2}=15mA	ts		225	nS
Fall time		tf		60	nS

RATING AND CHARACTERISTIC CURVES (MMST2222A-G)

Fig.1 Grounded Emitter Output Characteristics

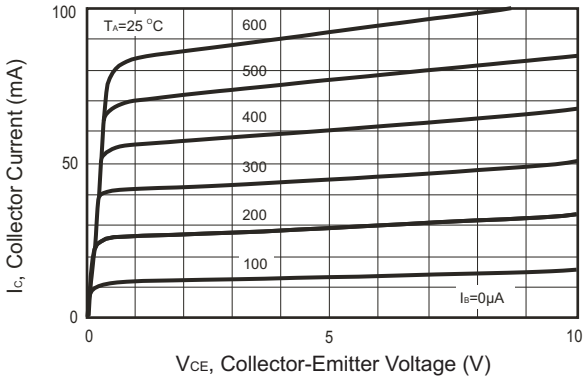


Fig.2 Collector-Emitter Saturation Voltage vs. Collector Current

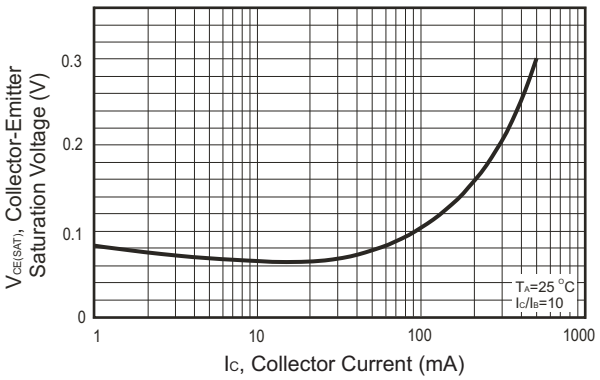


Fig.3 DC Current Gain vs. Collector Current

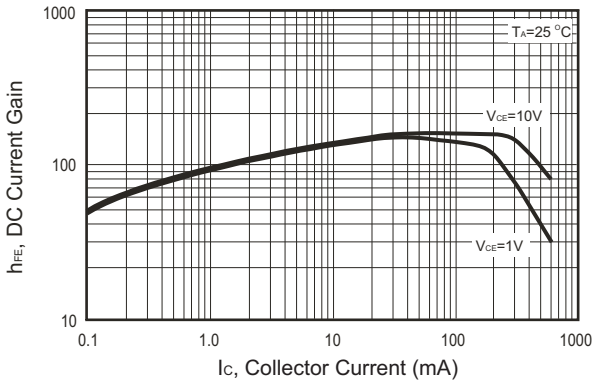


Fig.4 DC Current Gain vs. Collector Current

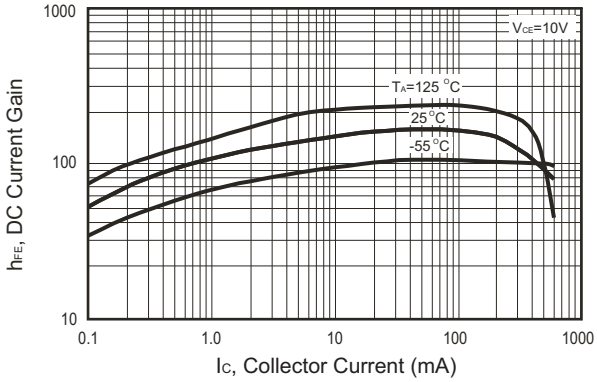


Fig.5 AC Current gain vs. Collector Current

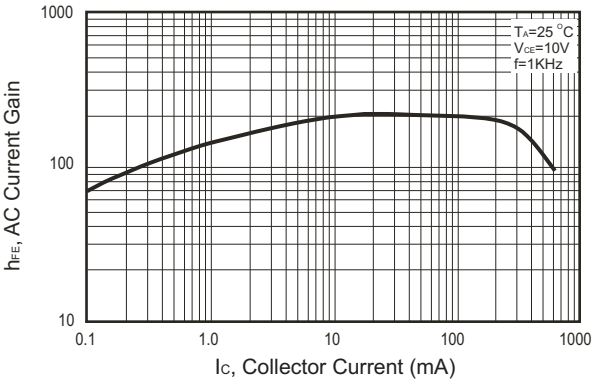


Fig.6 Base-Emitter Saturation Voltage vs. Collector Current

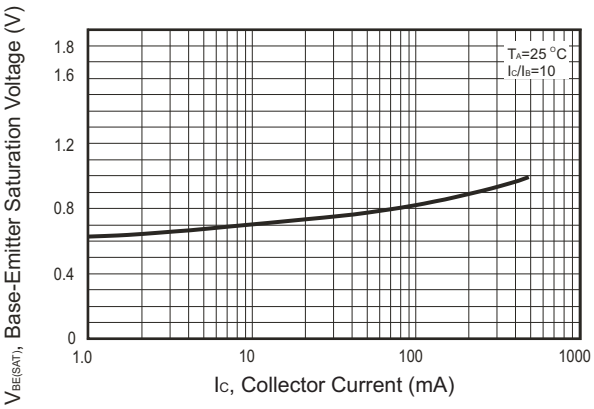


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Fig.7 Grounded-Emitter Propagation Characteristics

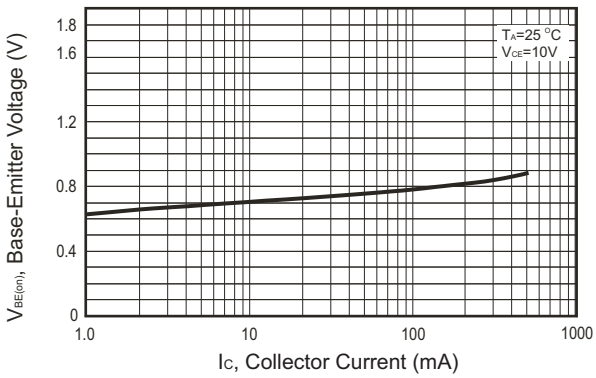

Fig.8 Turn-on time vs. Collector Current

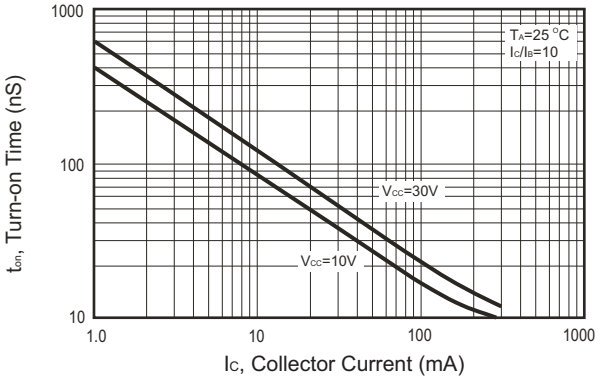

Fig.9 Rise Time vs. Collector Current

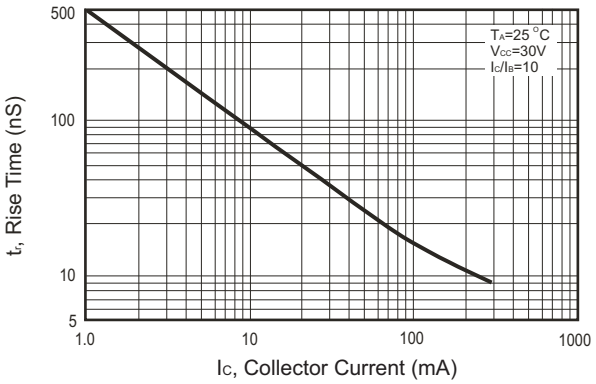

Fig.10 Storage Time vs. Collector Current

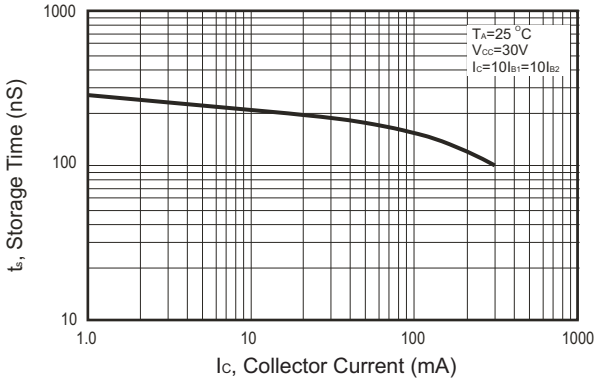

Fig.11 Fall Time vs. Collector Current

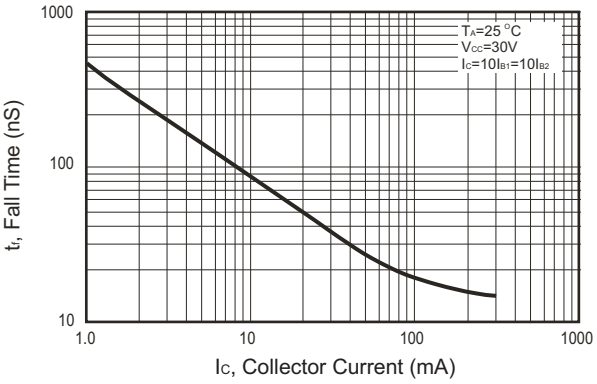

Fig.12 Input/Output Capacitance vs. Voltage

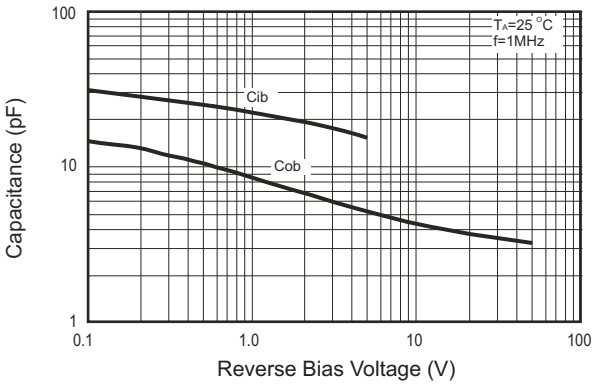

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Fig.13 Gain Bandwidth Product

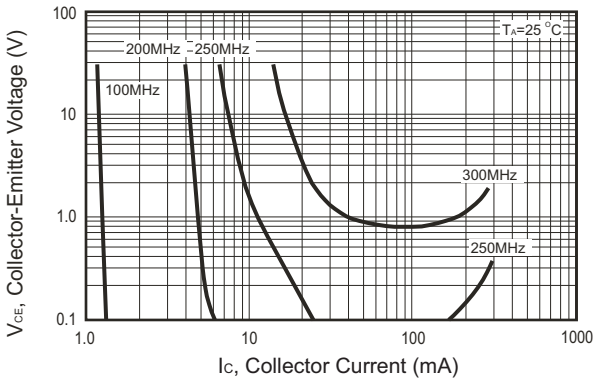

Fig.14 Gain Bandwidth product vs. Collector Current