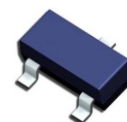


# General Purpose Transistor

## MMST2222A-G (NPN)

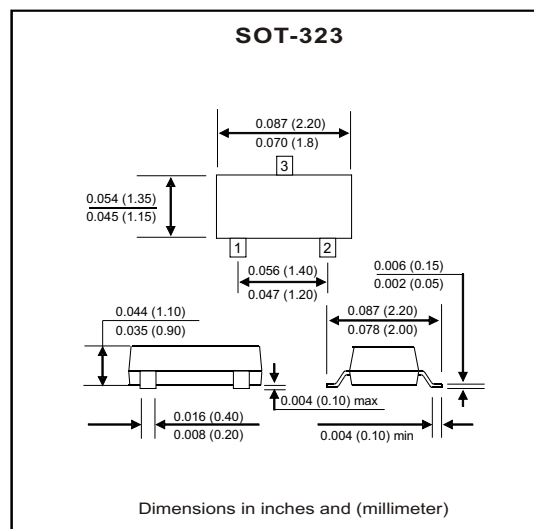
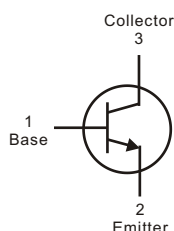
### RoHS Device



### Features

- Power dissipation  
 $P_{CM} : 0.2W (T_A=25^{\circ}C)$
- Collector current  
 $I_{CM} : 0.6A$
- Collector-base voltage  
 $V_{(BR)CBO} : 75V$
- Operating and storage junction temperature range  
 $T_J, T_{STG} : -55^{\circ}C \text{ to } +150^{\circ}C$

### Marking: K3P



### Electrical Characteristics (at $T_A=25^{\circ}C$ unless otherwise noted)

Parameter	Conditions	Symbol	Min	Max	Unit
Collector-Base breakdown voltage	$I_C = 10\mu A, I_E = 0$	$V_{(BR)CBO}$	75		V
Collector-Emitter breakdown voltage	$I_C = 10mA, I_B = 0$	$V_{(BR)CEO}$	40		V
Emitter-Base breakdown voltage	$I_E = 10\mu A, I_C = 0$	$V_{(BR)EBO}$	6		V
Collector cut-off current	$V_{CB} = 70V, I_E = 0$	$I_{CBO}$		0.1	$\mu A$
Collector cut-off current	$V_{CE} = 35V, I_B = 0$	$I_{CEO}$		0.1	$\mu A$
Emitter cut-off current	$V_{EB} = 3V, I_C = 0$	$I_{EBO}$		0.1	$\mu A$
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	$V_{CC} = 30V, I_C = 150mA$ $V_{BE(off)} = 0.5V, I_{B1} = 15mA$	$t_d$		10	nS
Rise time		$t_r$		25	nS
Storage time	$V_{CC} = 30V, I_C = 150mA$ $I_{B1} = I_{B2} = 15mA$	$t_s$		225	nS
Fall time		$t_f$		60	nS

## RATING AND CHARACTERISTIC CURVES (MMST2222A-G)

Fig.1 Grounded Emitter Output Characteristics

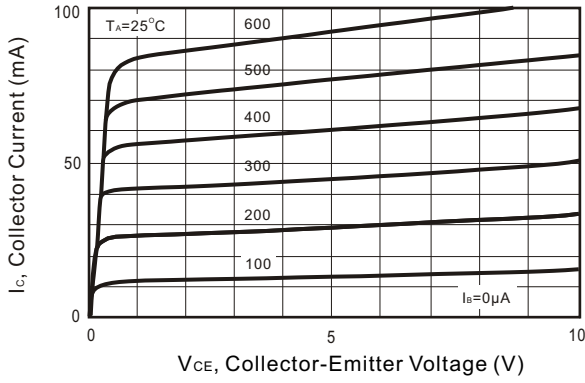


Fig.2 Collector-Emitter Saturation Voltage vs. Collector Current

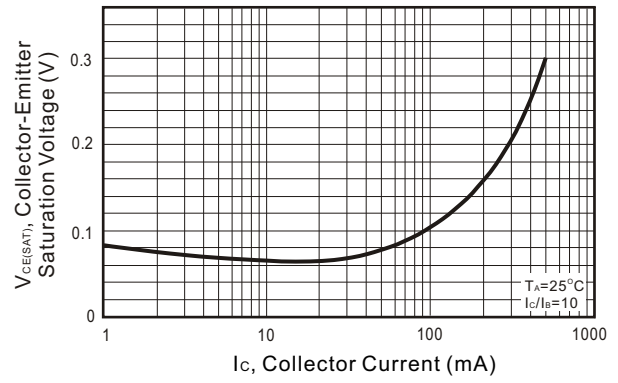


Fig.3 DC Current Gain vs. Collector Current

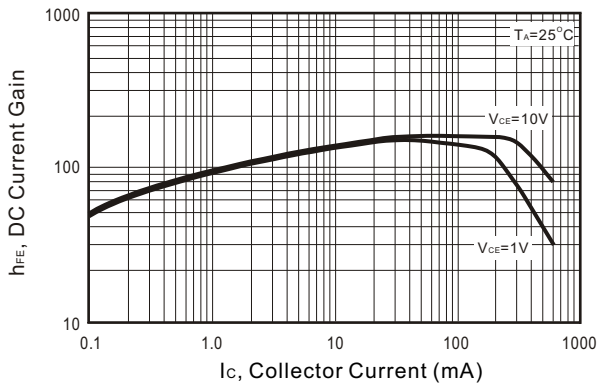


Fig.4 DC Current Gain vs. Collector Current

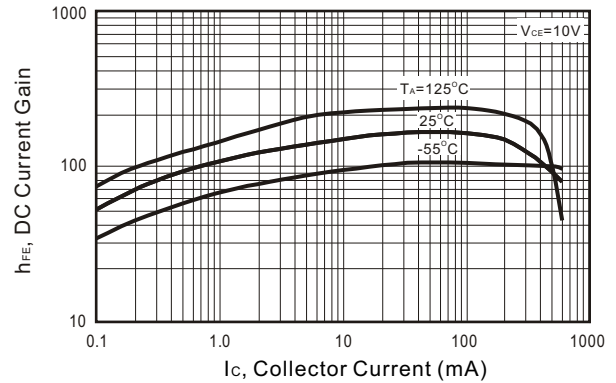


Fig.5 AC Current gain vs. Collector Current

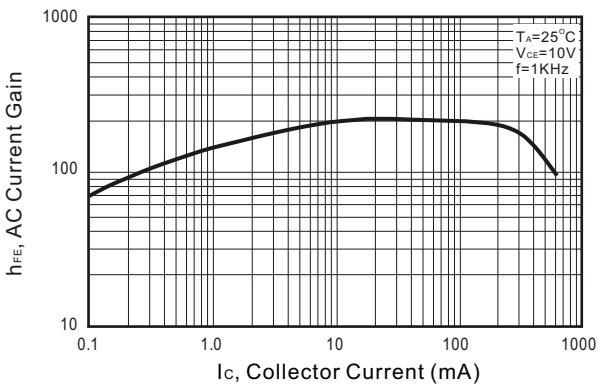
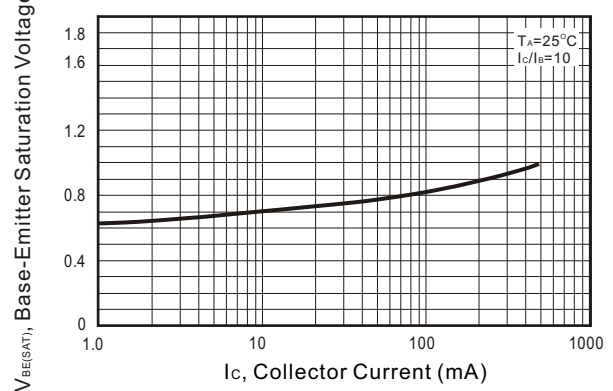


Fig.6 Base-Emitter Saturation Voltage vs. Collector Current



## RATING AND CHARACTERISTIC CURVES (MMST2222A-G)

Fig.7 Grounded-Emitter Propagation Characteristics

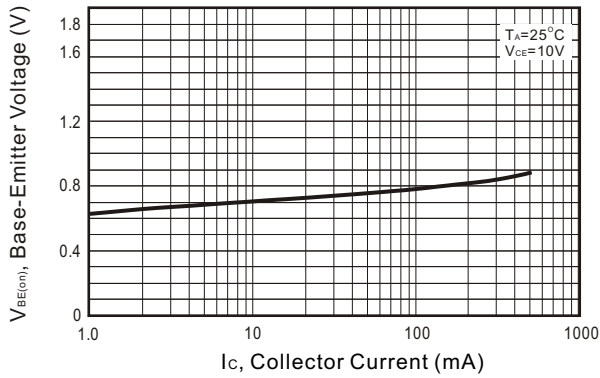


Fig.8 Turn-on time vs. Collector Current

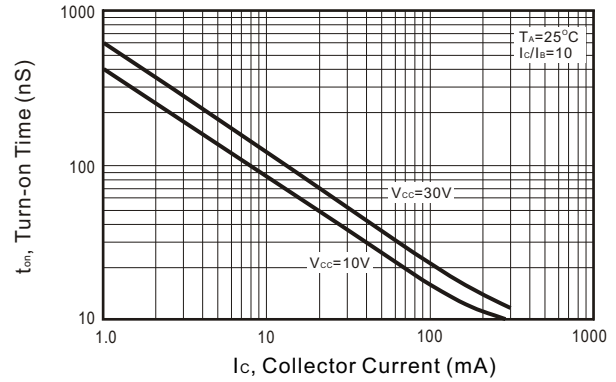


Fig.9 Rise Time vs. Collector Current

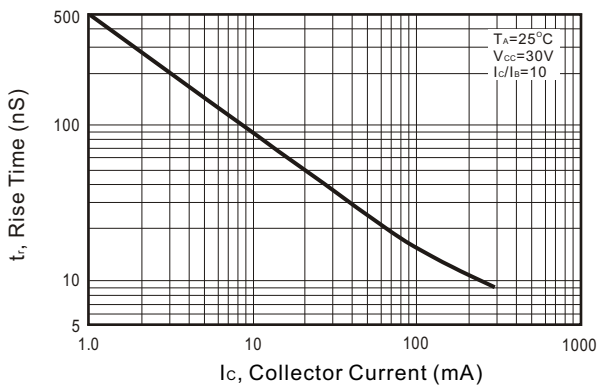


Fig.10 Storage Time vs. Collector Current

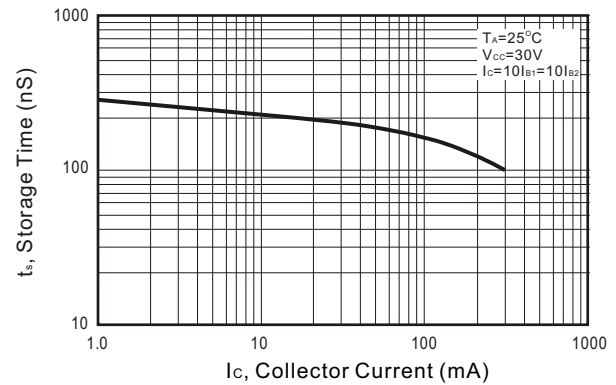


Fig.11 Fall Time vs. Collector Current

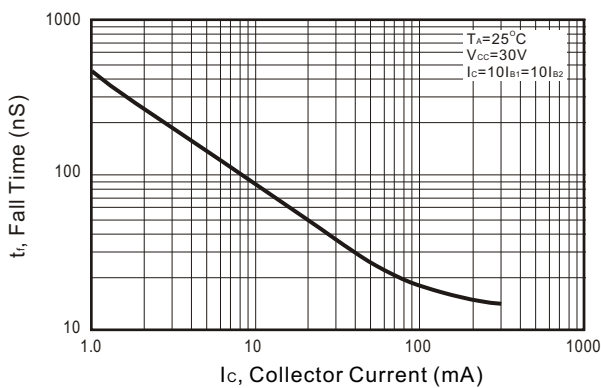
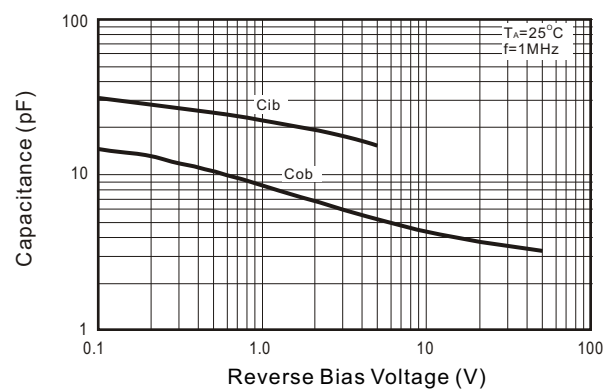


Fig.12 Input/Output Capacitance vs. Voltage



## RATING AND CHARACTERISTIC CURVES (MMST2222A-G)

Fig.13 Gain Bandwidth Product

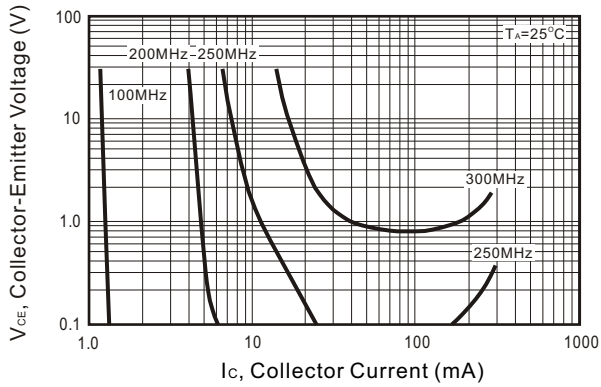


Fig.14 Gain Bandwidth product vs. Collector Current

