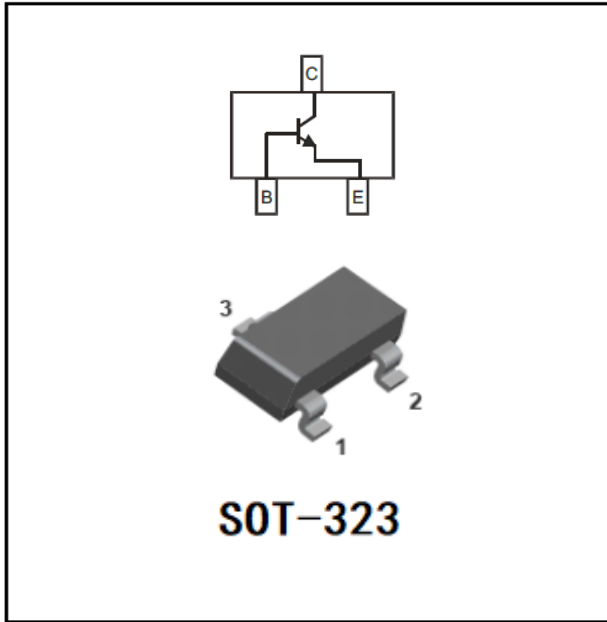


## NPN Transistor



### Features

- Epoxy meets UL-94 V-0 flammability rating
- Moisture Sensitivity Level 1
- High Conductance
- Surface Mount Package Ideally Suited for Automatic Insertion

### Mechanical Data

- **Package:** SOT-323  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** K3P

### ■ Maximum Ratings (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Value
Collector-Base Voltage	BVCBO	V	75
Collector-Emitter Voltage	BVCEO	V	40
Emitter-Base Voltage	BVEBO	V	6
Collector Current -Continuous	IC	mA	600
Total Device Dissipation	PD	mW	200
Junction Temperature	Tj	°C	150
Storage Temperature	TSTG	°C	-55 to +150

### ■ Electrical Characteristics (Ta=25°C unless otherwise noted)

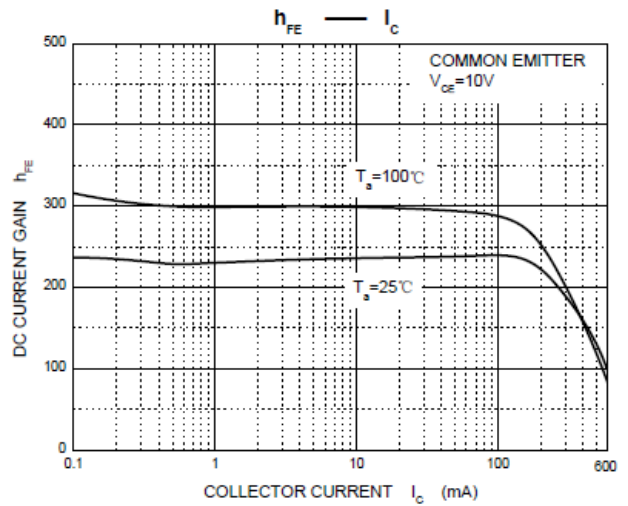
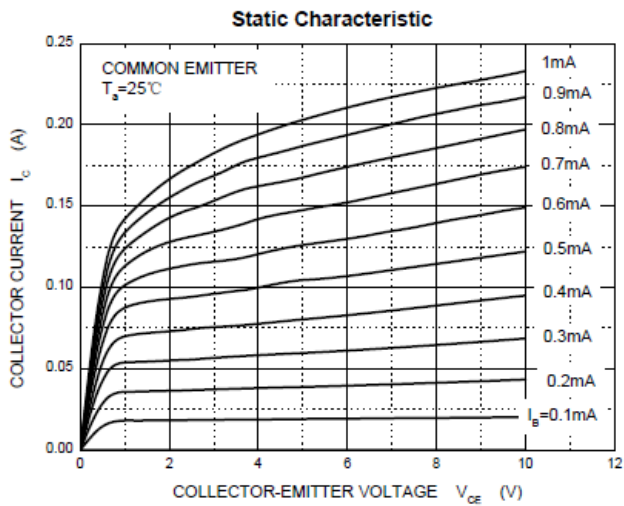
Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	IC=10uA, IE=0	75		
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	IC =10mA, IB=0	40		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	IE=10μA, IC=0	6		
Collector cut-off current	ICEX	nA	VCE=60V, VBE=3V			10
Base cut-off current	ICBO	nA	VCE=60V, IC=0			100
Emitter cut-off current	IEBO	nA	VEB=3 V, IC =0			100
DC current gain	hFE		VCE=10V, IC=0.1mA	20		

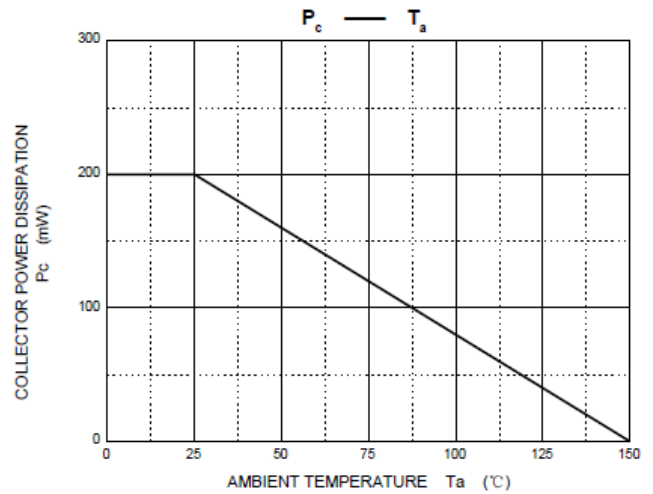
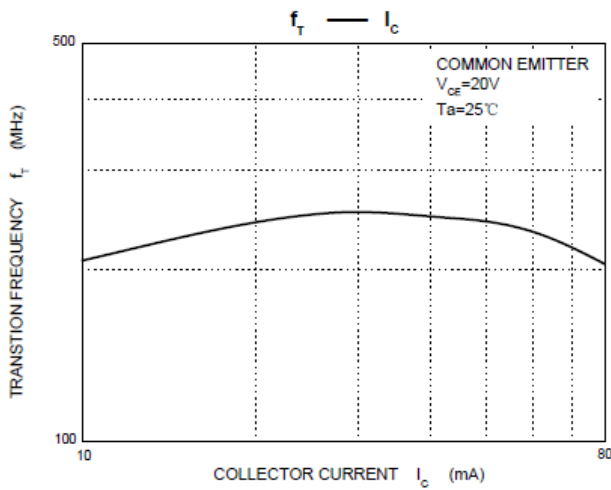
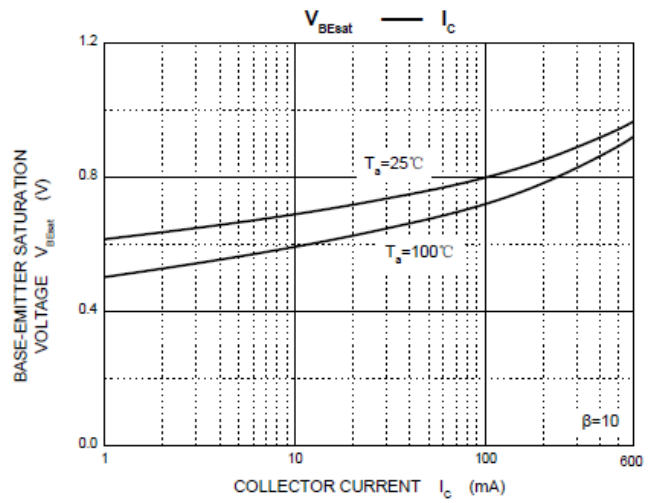
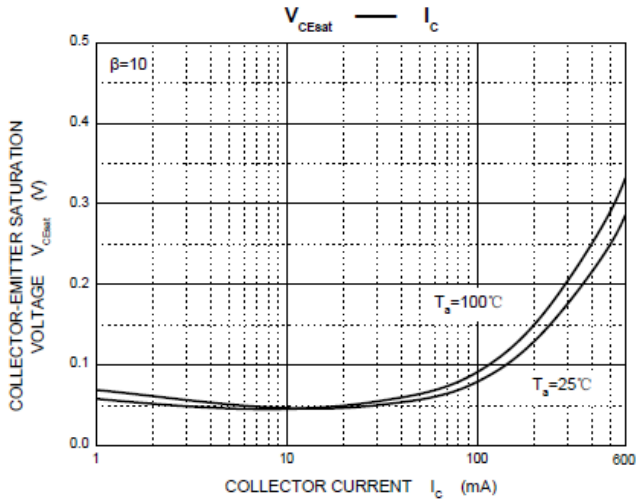
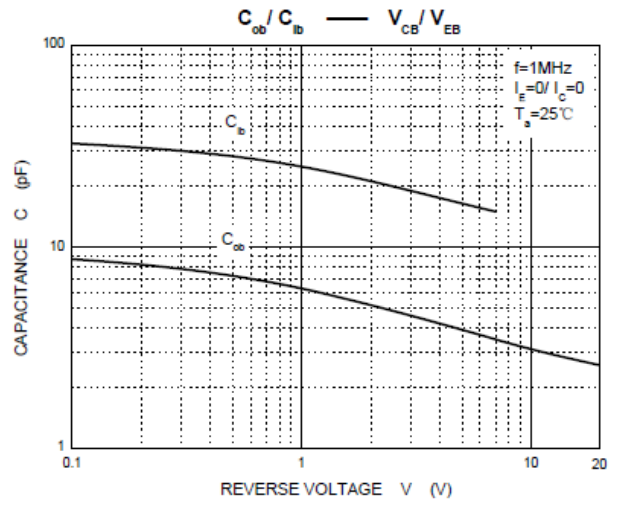
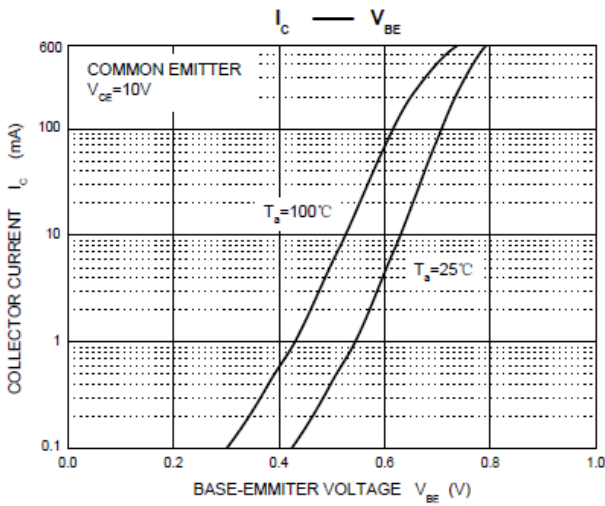
	$h_{FE}$		VCE=10V, IC=1mA	40	
	$h_{FE}$		VCE=10V, IC=10mA	80	
	$h_{FE}$		VCE=10V, IC=150mA	100	300
	$h_{FE}$		VCE=10V, IC=500mA	40	
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	IC=150mA, IB=15mA		0.3
Base-emitter saturation voltage	$V_{BE(sat)}$	V	IC=150mA, IB=15mA	0.6	1.2
Transition frequency	$f_T$	MHz	VCE=20V, IC=20mA, f=100MHz	300	
Delay time	$t_d$	ns	VCC=30V, VBE(off)=-0.5V IC=150mA, IB1=15mA		15
Rise time	$t_r$	ns			25
Storage time	$t_s$	ns	VCC=30V, IC=150mA, IB1=IB2=15mA		225
Fall time	$t_f$	ns			60

### Ordering Information (Example)

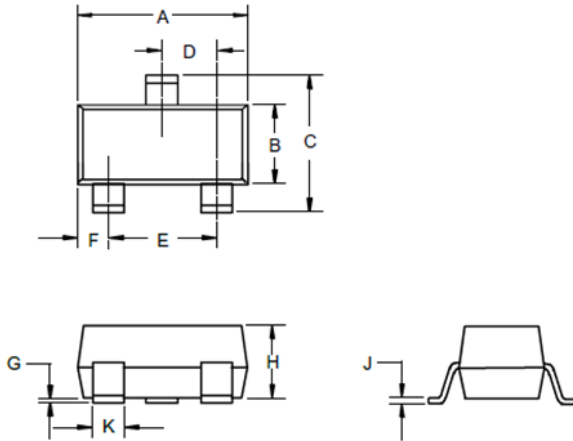
Prefered P/N	Packing Code	Unit Weight(G)	Minimum Package(Pcs)	Inner Box Quantity(Pcs)	Outer Carton Quantity(Pcs)	Delivery Mode
MMST2222A	F2	Approximate 0.005	3000	30000	120000	7" reel

### Characteristics (Typical)





■ SOT-323 Package Outline Dimensions



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.083	.096	2.10	2.45	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.006	.016	.15	.40	

■ SOT-323 Suggested Pad Layout

