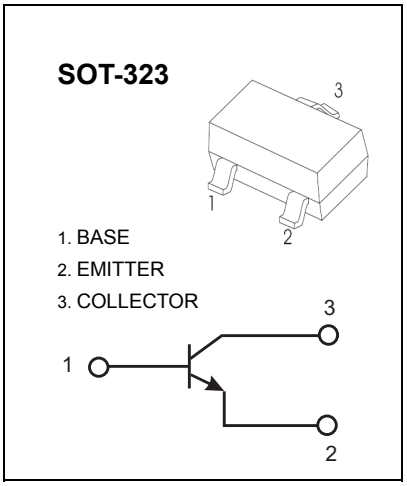
MMST2222A

NPN Transistors

Features

- High Conductance
- Surface Mount Package Ideally Suited For Automatic Insertion
- Compliant to Halogen-free



Mechanical Data

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

Maximum Ratings (Ta=25℃ unless otherwise noted)

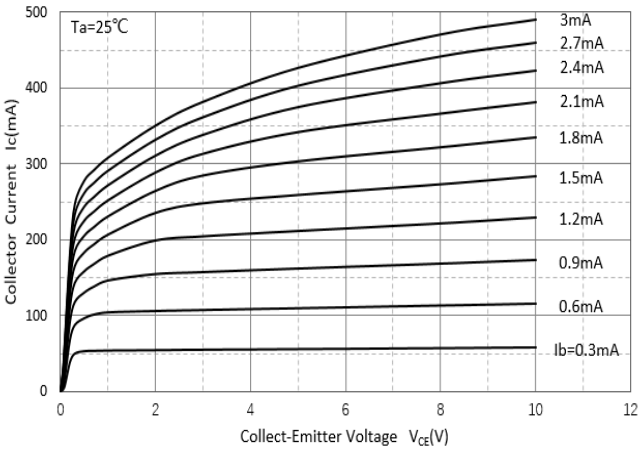
Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	75	V
Collector-Emitter Breakdown Voltage	V_{CEO}	40	V
Emitter-Base Breakdown Voltage	V_{EBO}	6	V
Collector Current	I_C	0.6	A
Power Dissipation	P_D	0.2	W
Operation Junction Temperature Range	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics (Ta=25℃ unless otherwise specified)

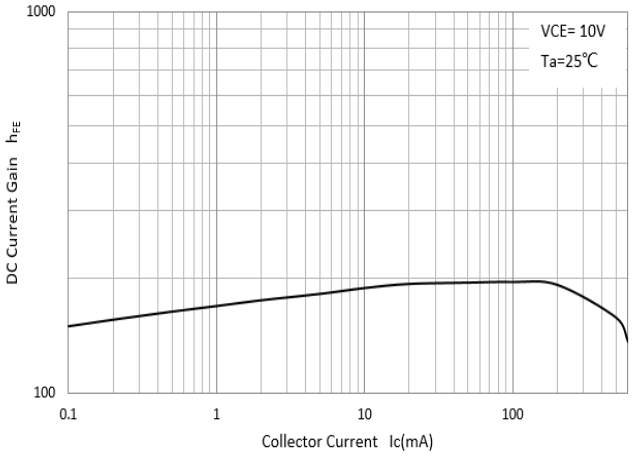
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10μA, I_E = 0A	75	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10mA, I_B = 0A	40	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0A	6	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = 60V, I_E = 0A	-	-	100	nA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 3V, I_C = 0A	-	-	100	nA
Collector Cut-off Current	I_{CEX}	V_{CE} = 60V, V_{BE} = 3V	-	-	100	nA
DC Current Gain	h_{FE}	V_{CE} = 10V, I_C = 0.1mA	20	-	-	-
		V_{CE} = 10V, I_C = 1mA	40	-	-	-
		V_{CE} = 10V, I_C = 10mA	75	-	-	-
		V_{CE} = 10V, I_C = 150mA	100	-	300	-
		V_{CE} = 10V, I_C = 500mA	40	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 150mA, I_B = 15mA	-	-	0.3	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 150mA, I_B = 15mA	-	-	1.2	V
Transition Frequency	f_T	I_C = 20mA, V_{CE} = 20V	300	-	-	MHz
Delay Time	t_d	V_{CC} = 30V, I_C = 150mA	-	-	15	ns
Rise Time	t_r	$V_{BE(OFF)}$ = -0.5V, I_{B1} = 15mA	-	-	25	ns
Storang Time	t_s	V_{CC} = 30V, I_C = 150mA	-	-	225	ns
Fall Time	t_f	I_{B1} = I_{B2} = 15mA	-	-	60	ns

Characteristics (Typical)

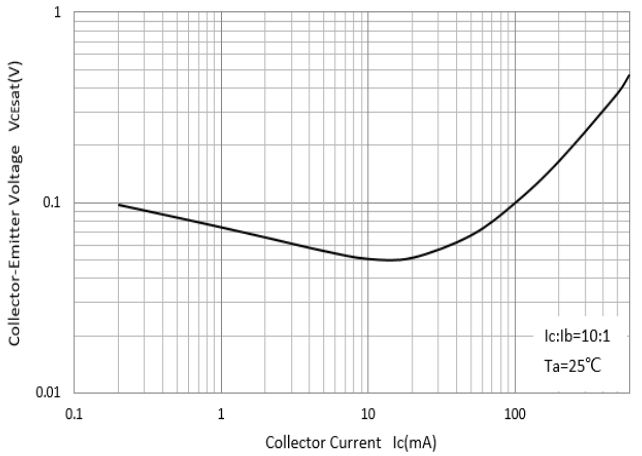
Static Characteristic



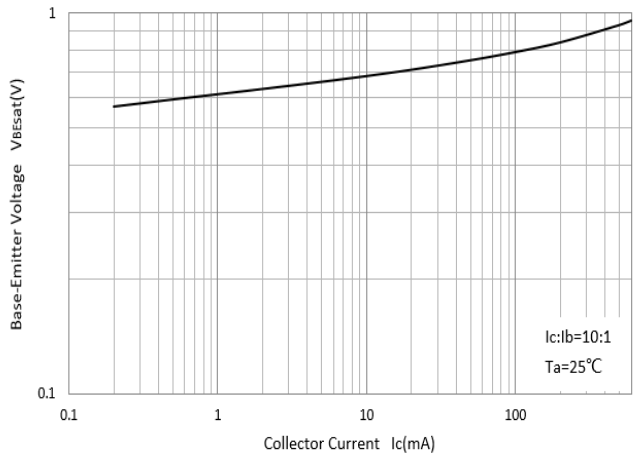
DC Current Gain



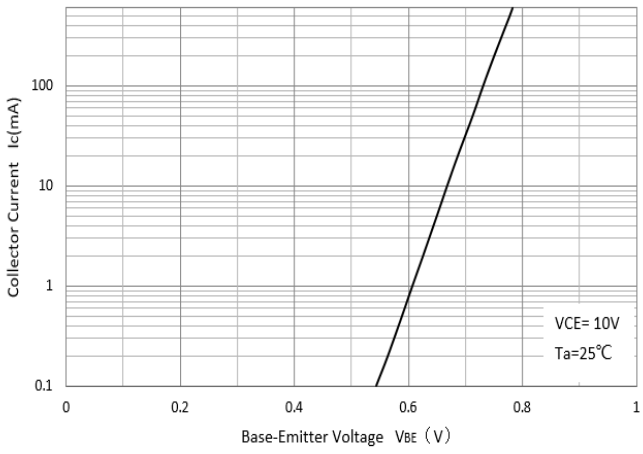
Collector-Emitter Saturation Voltage



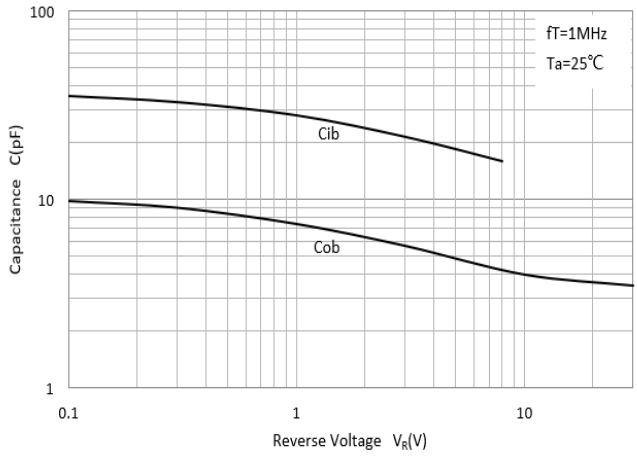
Base-Emitter Saturation Voltage



Base-Emitter On Voltage



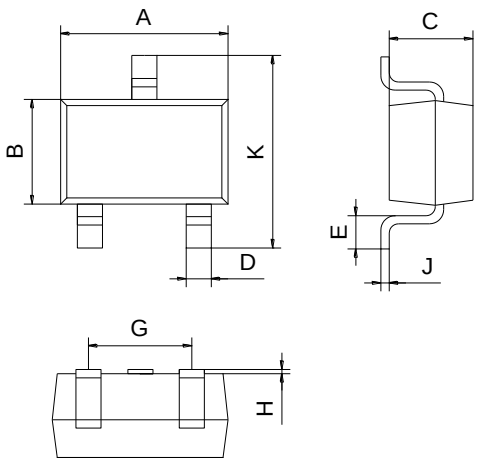
Cob/Cib-V_{CB}/V_{EB}



Marking

Type number	Marking code
MMST2222A	K3P

SOT-323 Package Outline Dimensions



SOT-323		
Dimension	**Min.**	**Max.**
A	1.80	2.20
B	1.15	1.35
C	0.90	1.10
D	0.15	0.40
E	0.25	0.40
G	1.20	1.40
H	0.00	0.10
J	0.05	0.25
K	2.10	2.45

SOT-323 Soldering Footprint (mm)