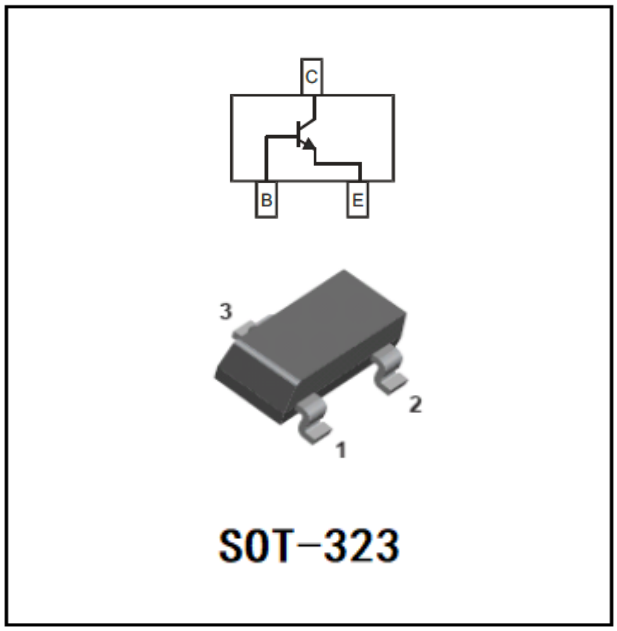
NPN Transistor



Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix ”HF”
- Moitsure 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℃ unless otherwise noted)

Item	Symbol	Unit	Value
Collector-Base Voltage	V_{CBO}	V	75
Collector-Emitter Voltage	V_{CEO}	V	40
Emitter-Base Voltage	V_{EBO}	V	6
Collector Current	I_C	mA	600
Collector Power Dissipation	P_C	mW	200
Operation Junction Temperature	T_j	℃	150
Storage Temperature	T_{stg}	℃	-55 to +150

■ Electrical Characteristics (Ta=25℃ unless otherwise noted)

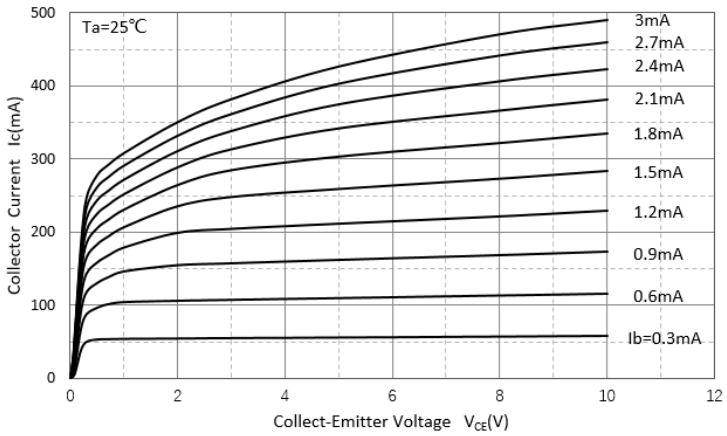
Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V_{CBO}	V	IC=10uA,IE=0	75		
Collector-emitter breakdown voltage	V_{CEO*}	V	IC =10mA,IB=0	40		
Emitter-base breakdown voltage	V_{EBO}	V	IE=10μA,IC=0	6		
Collector-emitter cut-off current	I_{CEX}	nA	VCE=60V, VBE=3V			10
Collector-base cut-off current	I_{CBO}	nA	VCB=60V, IE=0			100
Emitter-base cut-off current	I_{EBO}	nA	VEB=3 V, IC =0			100
DC current gain	h_{FE}		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	td	ns	VCC=30V, VBE(off)=-0.5V IC=150mA,IB1=15mA			15
Rise time	tr	ns				25
Storage time	ts	ns	VCC=30V,IC=150mA,IB1=IB2=15mA			225
Fall time	tf	ns				60

■ Ordering Information (Example)

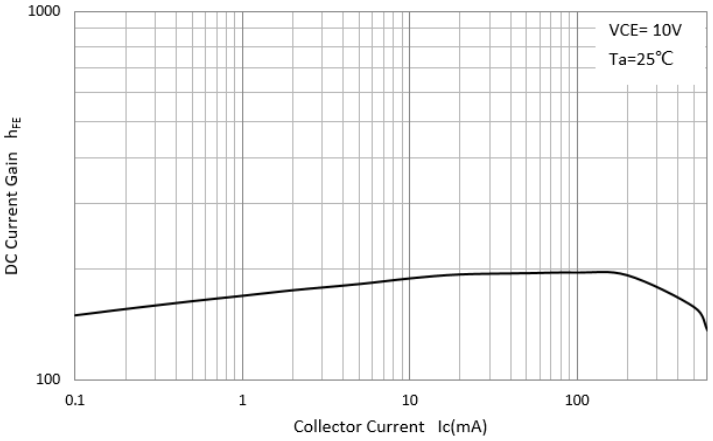
Prefered P/N	Packing Code	Unit Weight(G)	Minimum Package(Pcs)	Inner Box Quantity(Pcs)	Outer Carton Quantity(Pcs)	Delivery Mode
MMST2222A	F2	Approximate 0.005	3000	30000	120000	7” reel

■ **Characteristics** (Typical)

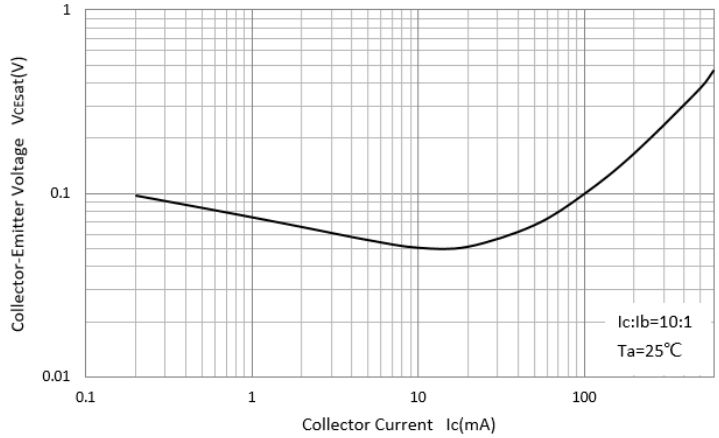
Static Characteristic



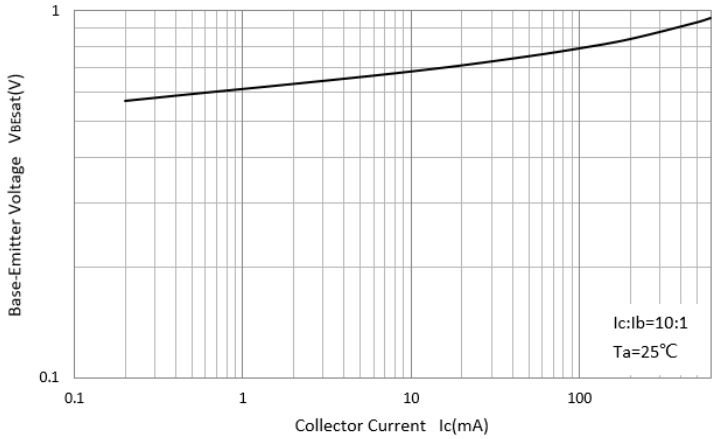
DC Current Gain



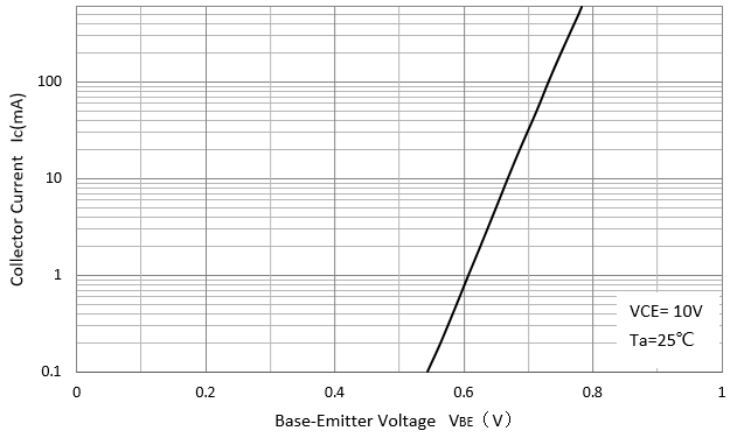
Collector-Emitter Saturation Voltage



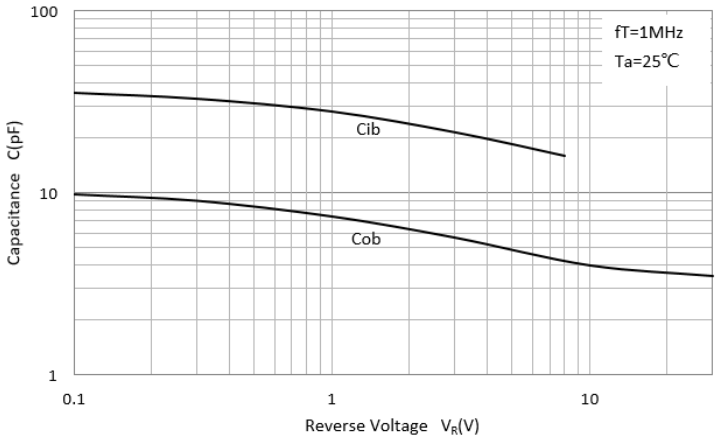
Base-Emitter Saturation Voltage



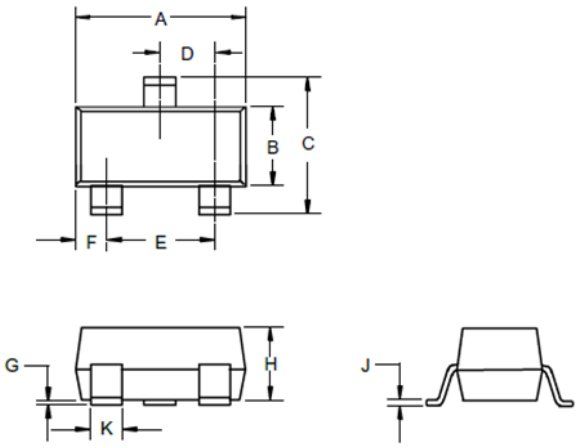
Base-Emitter On Voltage



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

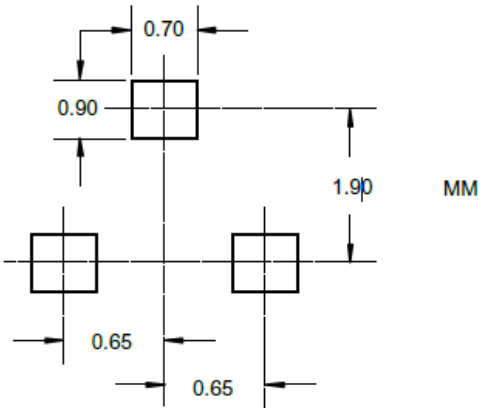


■ SOT-323 Package Outline Dimensions



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
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 Soldering Footprint



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