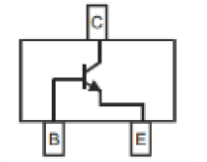
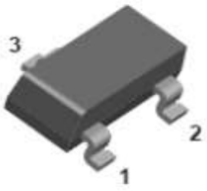
NPN General Purpose Amplifier





SOT-323

Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix ”HF”
- 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:** K2N

■Maximum Ratings (Ta=25℃ unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	V_{CBO}	V	IC=10μA,IE=0	60
Collector-Emitter Voltage	V_{CEO}	V	IC =1mA,IB=0	40
Emitter-Base Voltage	V_{EBO}	V	IE=10μA,IC=0	6
Collector Current	I_C	mA		200
Collector Power Dissipation	P_C	mW		200
Operation Junction Temperature	T_j	℃		-55 to +150
Storage Temperature	T_{stg}	℃		-55 to +150

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

Item	Symbol	Unit	Conditions	Min	Max
Collector-base breakdown voltage	V_{CBO}	V	IC=10μA,IE=0	60	
Collector-emitter breakdown voltage	V_{CEO}	V	IC =1mA,IB=0	40	
Emitter-base breakdown voltage	V_{EBO}	V	IE=10μA,IC=0	6	
Collector-Base cut-off current	I_{CBO}	nA	VCB=30V,IE=0		100
Collector-Emitter cut-off current	I_{CEX}	nA	VCE=30V, VEB=3V,		50
DC current gain	h_{FE}		VCE=1V,IC=100uA	40	
	h_{FE}		VCE=1V,IC=1mA	70	
	h_{FE}		VCE=1V,IC=10mA	100	300
	h_{FE}		VCE=1V,IC=50mA	60	
	h_{FE}		VCE=1V,IC=100mA	30	
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	IC=50mA,IB=5mA		0.3
Base-emitter saturation voltage	$V_{BE(sat)*}$	V	IC=50mA,IB=5mA		0.95

■Other Characteristics（T_a=25℃ Unless otherwise specified）

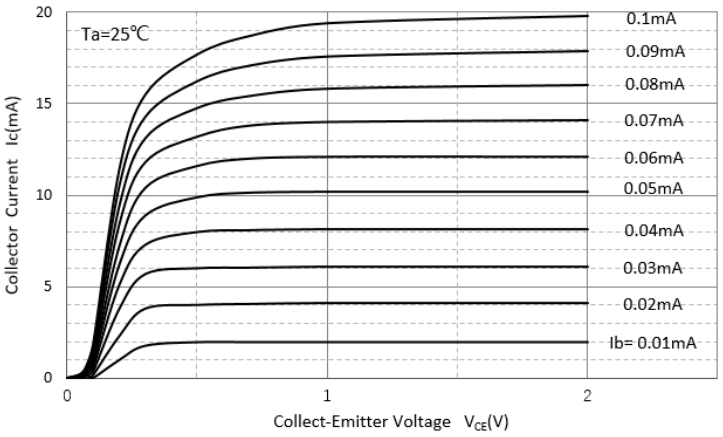
Item	Symbol	Unit	Conditions	Min	Max
Transition frequency	fT	MHz	VCE=20V,IC=10mA,f=100MHz	300	
Delay time	td	ns	VCC=3V,IC=100uA, VBE(off)=0.5V ,IB1=1mA		35
Rise time	tr	ns			35
Storage time	ts	ns	VCC=3V,IC=10mA, IB1=-IB2=1mA		200
Fall time	tf	ns			50

■Ordering Information (Example)

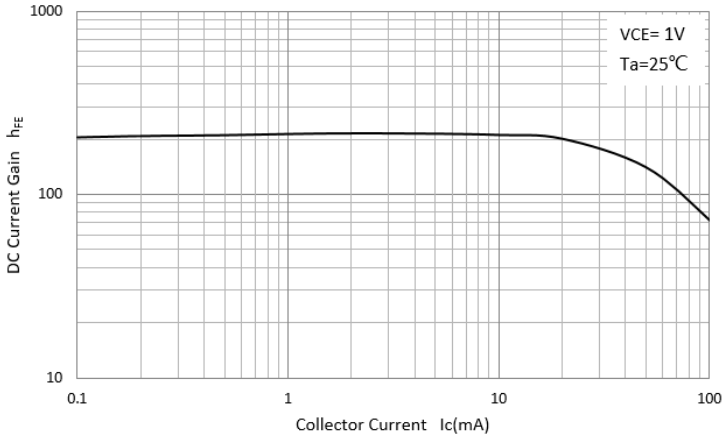
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMST3904	F2	Approximate 0.005	3000	30000	120000	7” reel

■**Characteristics**(Typical)

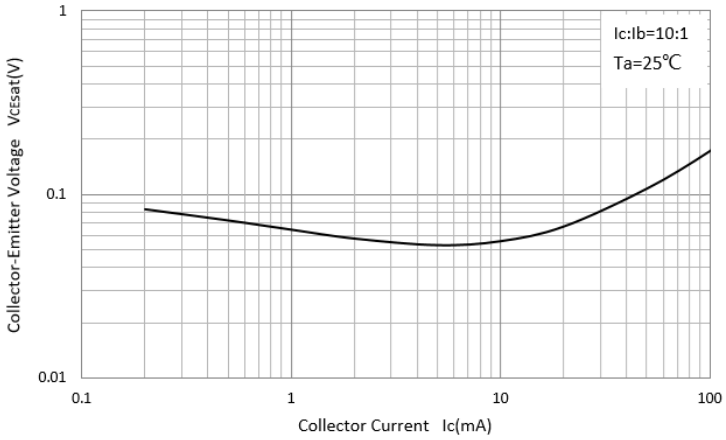
Static Characteristic



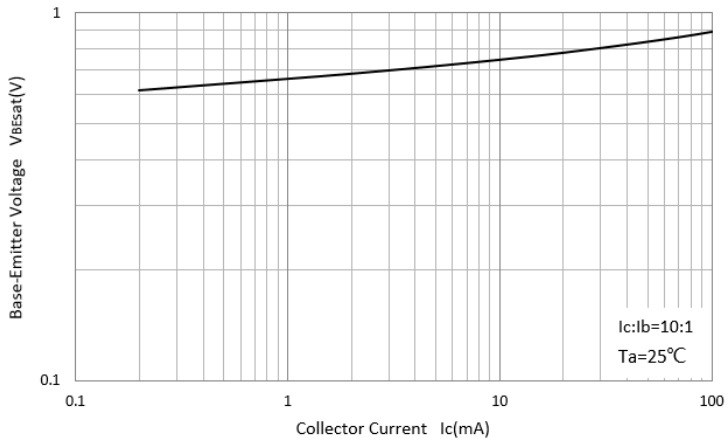
DC Current Gain



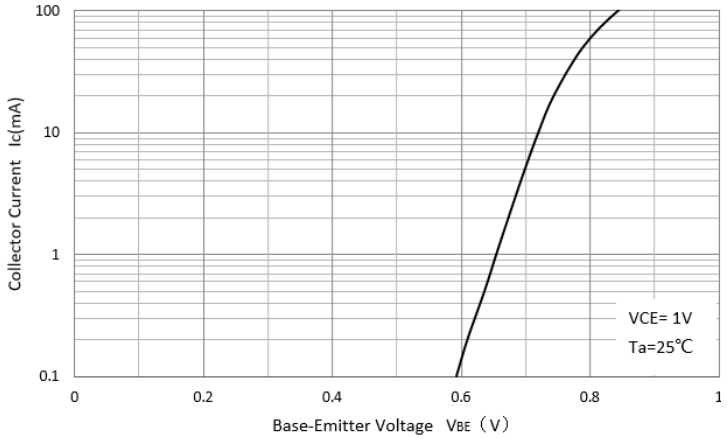
Collector-Emitter Saturation Voltage



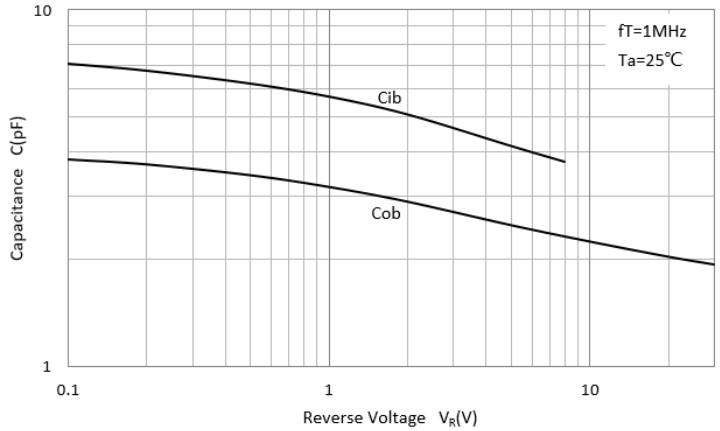
Base-Emitter Saturation Voltage



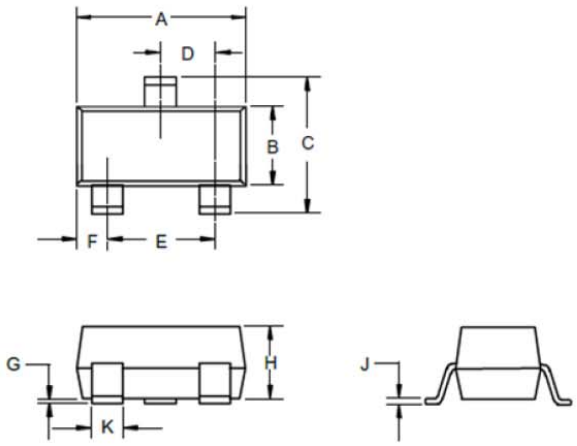
Base-Emitter On Voltage



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

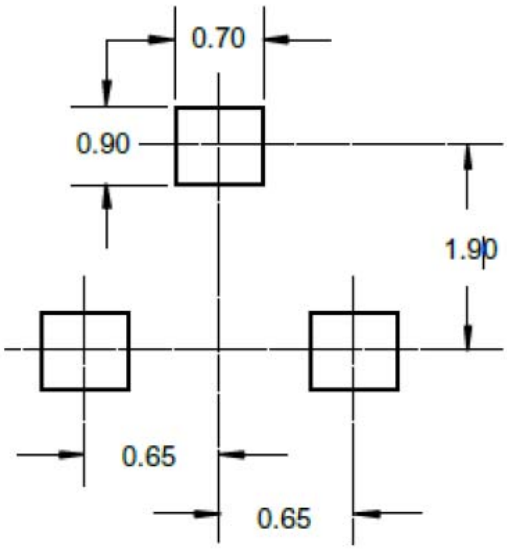


■SOT-323 Package Outline Dimensions



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



MM

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