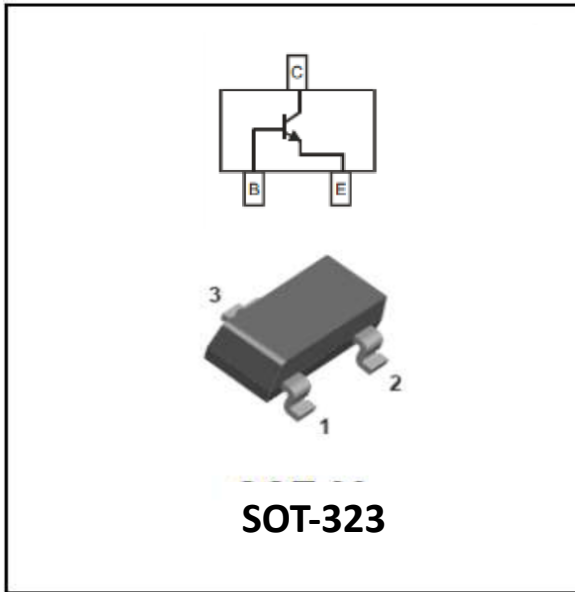


NPN General Purpose Amplifier



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°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	V_{CBO}	V	$I_C=10\mu A, I_E=0$	60
Collector-Emitter Voltage	V_{CEO}	V	$I_C=1mA, I_B=0$	40
Emitter-Base Voltage	V_{EBO}	V	$I_E=10\mu A, I_C=0$	6
Collector Current	I_C	mA		200
Collector Power Dissipation	P_C	mW		200
Operation Junction Temperature	T_j	°C		-55 to +150
Storage Temperature	T_{stg}	°C		-55 to +150



MMST3904

RoHS
COMPLIANT

■Electrical Characteristics (T_a=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Max
Collector-base breakdown voltage	V _{CBO}	V	I _C =10μA, I _E =0	60	
Collector-emitter breakdown voltage	V _{CEO}	V	I _C =1mA, I _B =0	40	
Emitter-base breakdown voltage	V _{EBO}	V	I _E =10μA, I _C =0	6	
Collector-Base cut-off current	I _{CBO}	nA	V _{CB} =30V, I _E =0		100
Collector-Emitter cut-off current	I _{CEX}	nA	V _{CE} =30V, V _{EB} =3V,		50
DC current gain	h _{FE}		V _{CE} =1V, I _C =100uA	40	
	h _{FE}		V _{CE} =1V, I _C =1mA	70	
	h _{FE}		V _{CE} =1V, I _C =10mA	100	300
	h _{FE}		V _{CE} =1V, I _C =50mA	60	
	h _{FE}		V _{CE} =1V, I _C =100mA	30	
Collector-emitter saturation voltage	V _{CE(sat)}	V	I _C =50mA, I _B =5mA		0.3
Base-emitter saturation voltage	V _{BE(sat)*}	V	I _C =50mA, I _B =5mA		0.95

■Other Characteristics (T_a=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Max
Transition frequency	F _t	MHz	V _{CE} =20V, I _C =10mA, f=100MHz	250	
Delay time	t _d	ns	V _{CC} =3V, I _C =100uA, V _{BE(off)} =0.5V, I _{B1} =1mA		35
Rise time	t _r	ns			35
Storage time	t _s	ns	V _{CC} =3V, I _C =10mA, I _{B1} =-I _{B2} =1mA		200
Fall time	t _f	ns			50

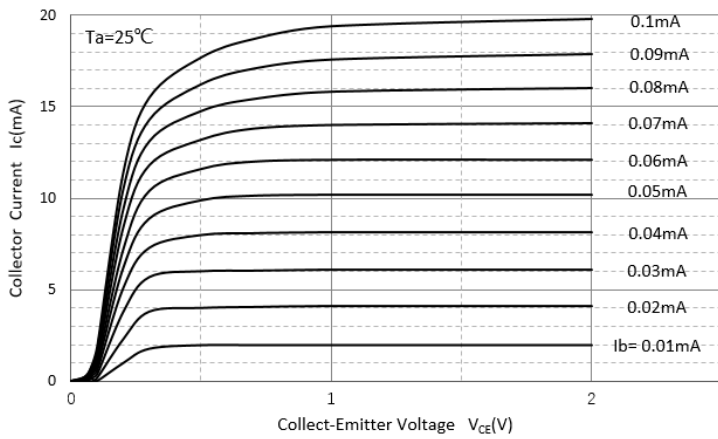
■Ordering Information (Example)

PREFERRED 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

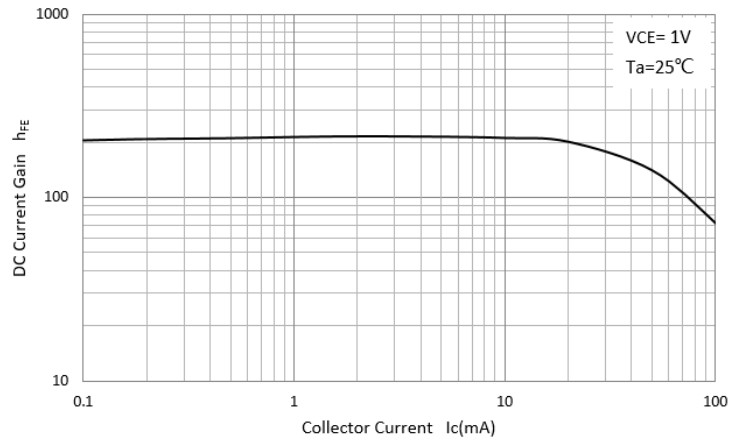


■ Characteristics(Typical)

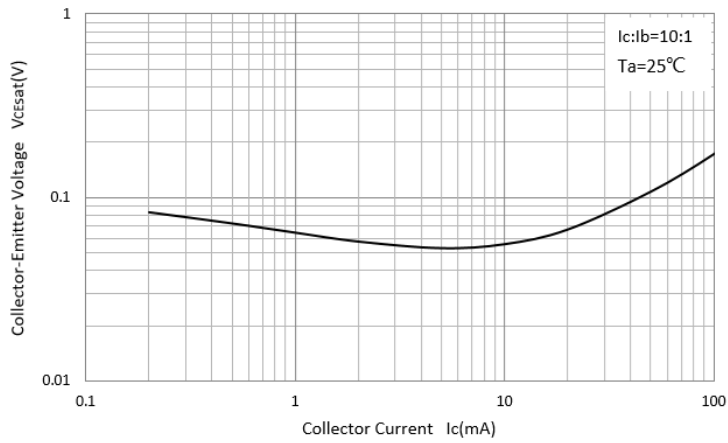
Static Characteristic



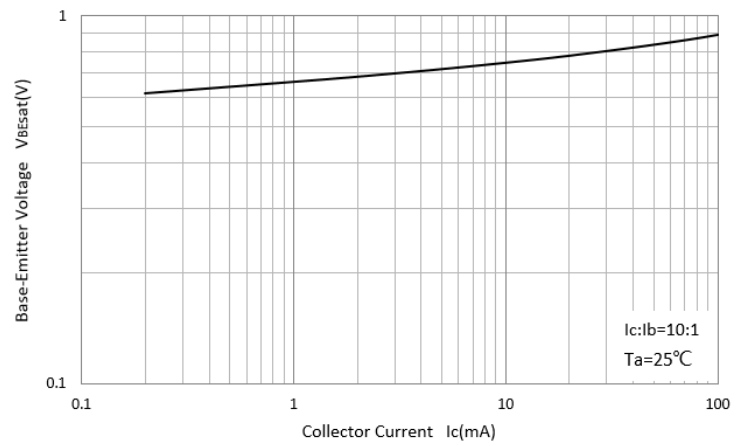
DC Current Gain



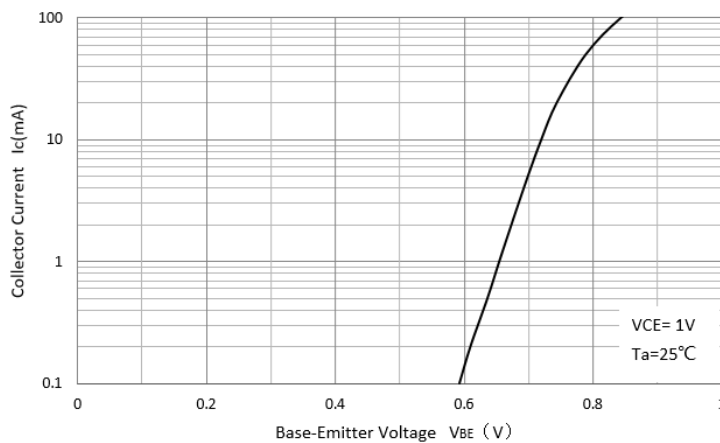
Collector-Emmitter Saturation Voltage



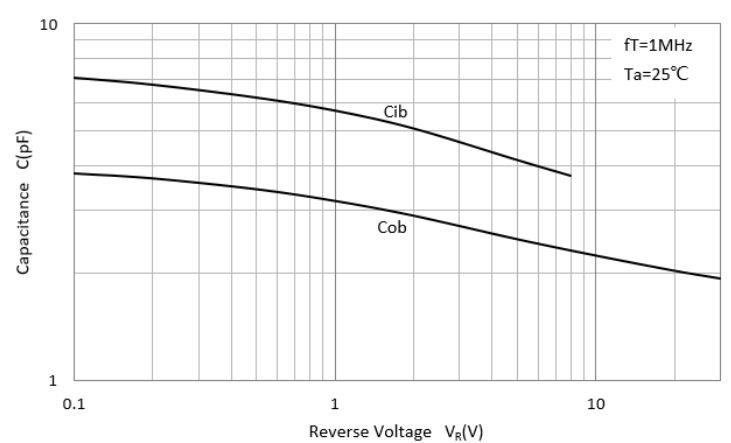
Base-Emmitter Saturation Voltage



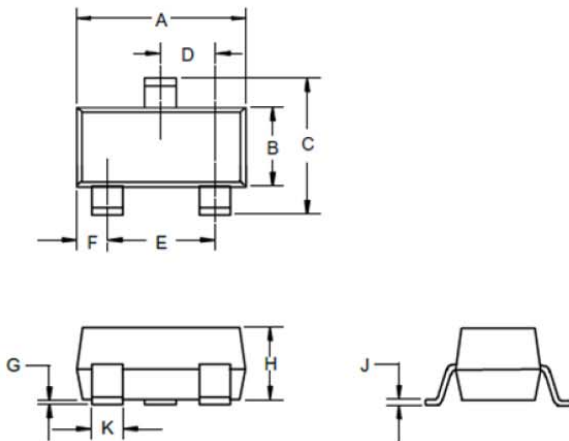
Base-Emmitter On Voltage



$C_{ob}/C_{ib}-V_{CB}/V_{EB}$

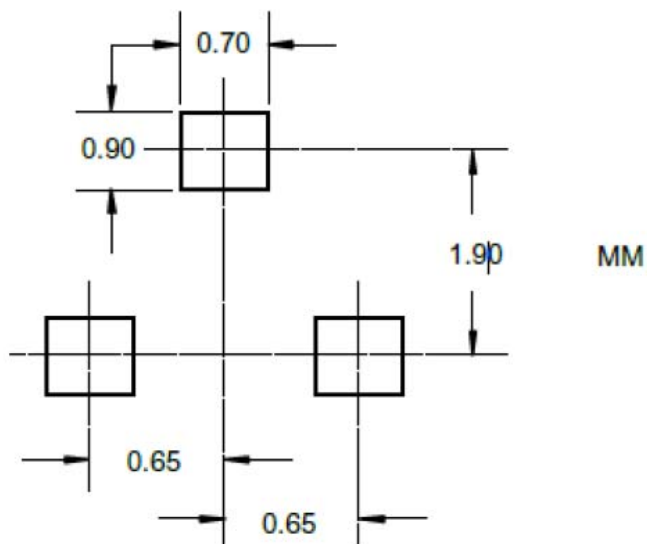


■SOT-323 Package Outline Dimensions



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 Soldering Footprint





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