

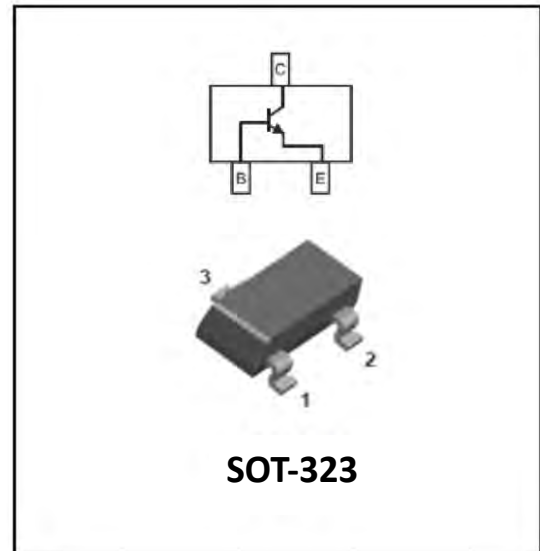
NPN General Purpose Amplifier

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:** K2N



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

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	VCBO	V	IC=10μA,IE=0	60
Collector-Emitter Voltage	VCEO	V	IC =1mA,IB=0	40
Emitter-Base Voltage	VEBO	V	IE=10μA,IC=0	6
Collector Current -Continuous	IC	mA		200
Total Device Dissipation	PC	mW		200
Junction Temperature	Tj	°C		-55 to +150
Storage Temperature	TSTG	°C		-55 to +150



MMST3904

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

Item	Symbol	Unit	Conditions	Min	Max
Collector-base breakdown voltage	V _{(BR)CBO}	V	I _C =10μA, I _E =0	60	
Collector-emitter breakdown voltage	V _{(BR)CEO}	V	I _C =1mA, I _B =0	40	
Emitter-base breakdown voltage	V _{(BR)EBO}	V	I _E =10μA, I _C =0	6	
Collector cut-off current	I _{CBO}	nA	V _{CB} =30V, I _B =0		100
Collector 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 =500mA	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

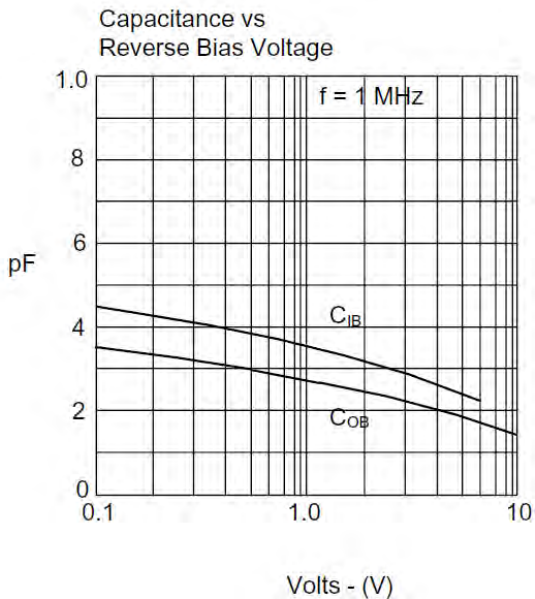
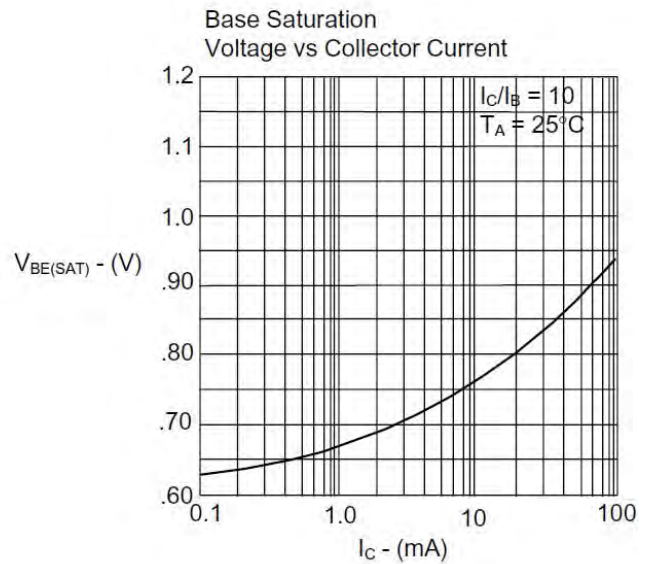
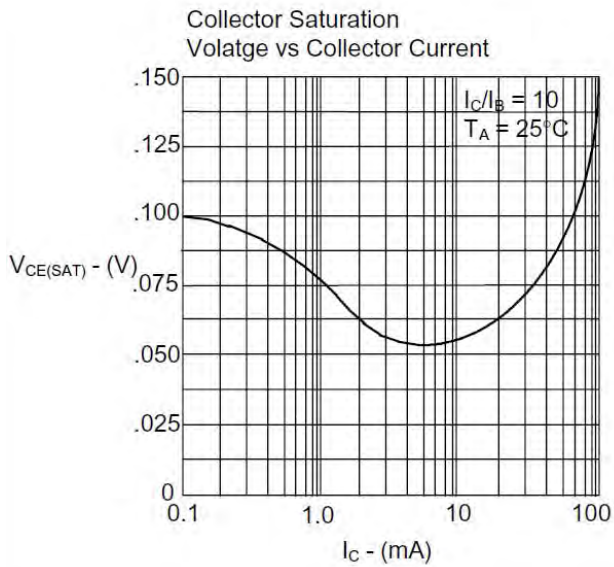
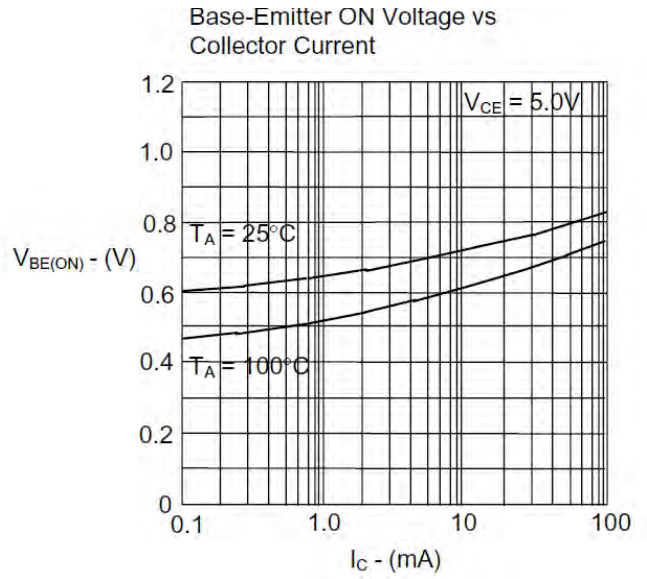
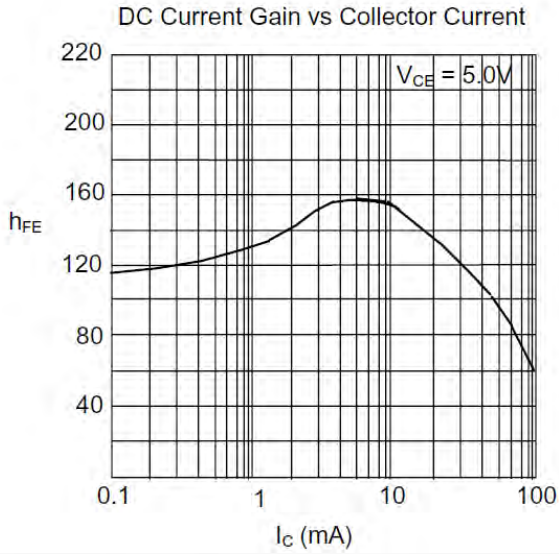
■Other Characteristics (T_a=25°C Unless otherwise specified)

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

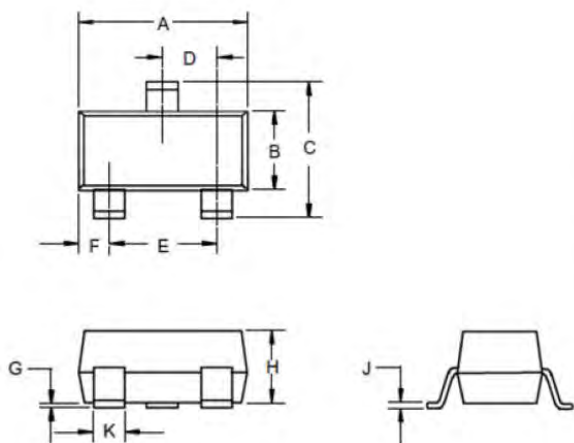


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■ Characteristics(Typical)

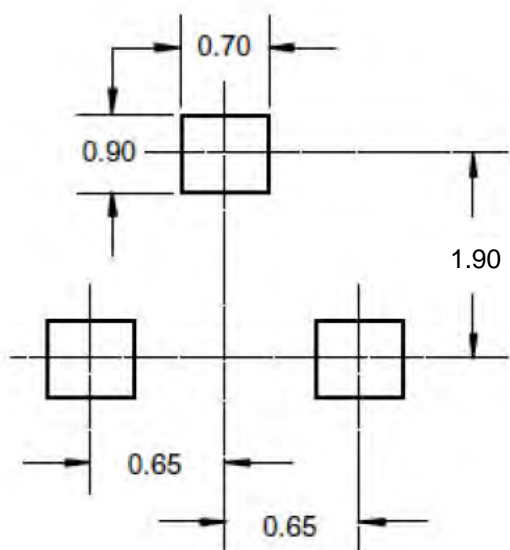


■SOT-323 Package Outline Dimensions



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	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



(Unit: mm)