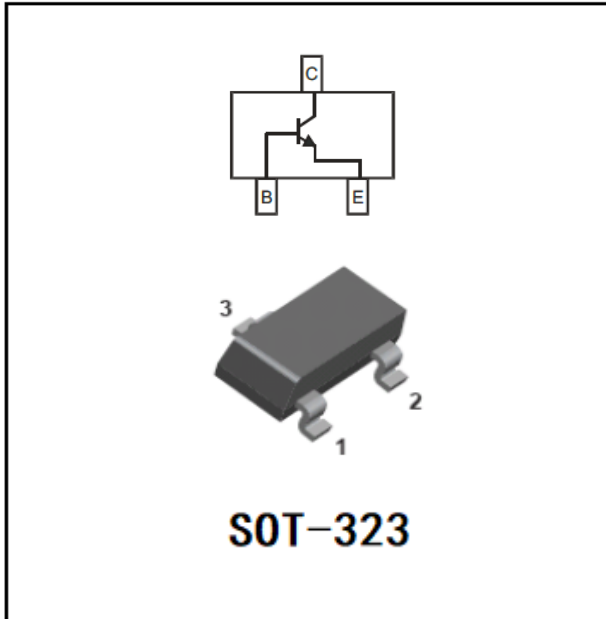


NPN General Purpose Amplifier



Features

- Epoxy meets UL-94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Part no. with suffix "Q" means AEC-Q101 qualified

Application

- Ideal for general purpose amplification and switching

Mechanical Data

- **Package:** SOT-323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** K4N

■ Maximum Ratings (Ta=25°C)

Item	Symbol	Unit	Value
Collector-Emitter Voltage	V_{CEO}	V	160
Collector-Base Voltage	V_{CBO}	V	180
Emitter-Base Voltage	V_{EBO}	V	6.0
Collector Current	I_C	mA	600
Collector Power Dissipation (*)	P_C	mW	200
Thermal Resistance Junction to Ambient (*)	R_{thJA}	K/W	625
Operation Junction Temperature	T_j	°C	150
Storage Temperature	T_{stg}	°C	-55 to +150

(*) Device mounted on FR-4 PCB 1.0 x 1.0 x 0.06 inch



MMST5551Q

■Electrical Characteristics (T_a=25°C)

Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Voltage	V _{CEO}	V	I _C =1.0mA, I _B =0	160	
Collector-Base Voltage	V _{CBO}	V	I _C =100μA, I _E =0	180	
Emitter-Base Voltage	V _{EBO}	V	I _E =10μA, I _C =0	6	
Collector-Base Cut-off Current	I _{CBO}	nA	V _{CB} =120V, I _E =0		50
Emitter-Base Cut-off Current	I _{EBO}	nA	V _{EB} =4V, I _C =0		50
DC Current Gain	h _{FE}		V _{CE} =5.0V, I _C =1.0mA	80	
			V _{CE} =5.0V, I _C =10mA	100	300
			V _{CE} =5.0V, I _C =50mA	30	
Collector-Emitter Saturation Voltage	V _{CE(sat)}	V	I _C =50mA, I _B =5.0mA		0.2
Base-Emitter Saturation Voltage	V _{BE(sat)}	V	I _C =50mA, I _B =5.0mA		1.0
Transition frequency	f _T	MHz	I _C =10mA, V _{CE} =5.0V, f=30MHz	100	300

■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMST5551Q	F2	Approximate 0.005	3000	30000	120000	7" reel

■Characteristics(Typical)

Fig.1-Static Characteristic

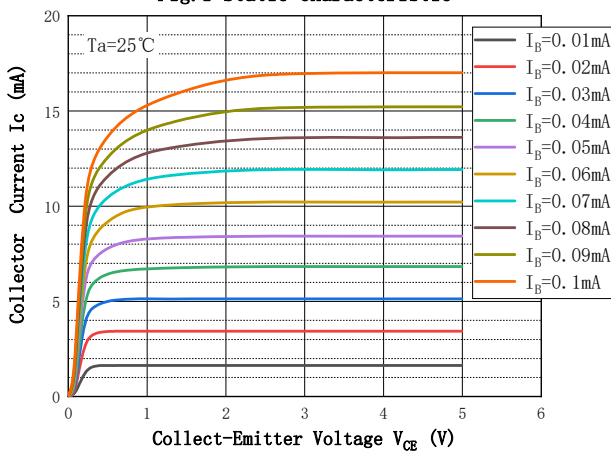


Fig.2 - DC Current Gian

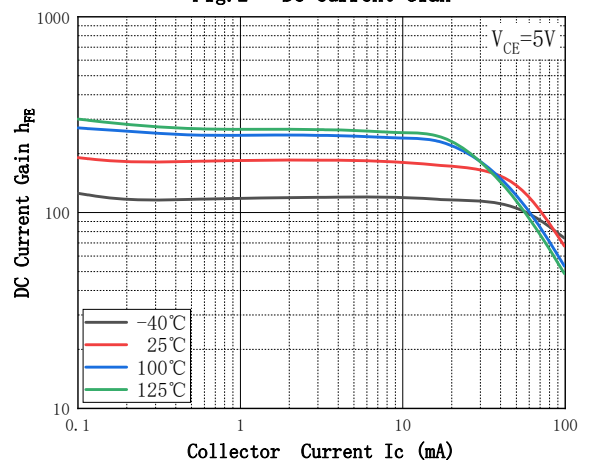




Fig. 3 - Collect-Emmitter Saturation Voltage

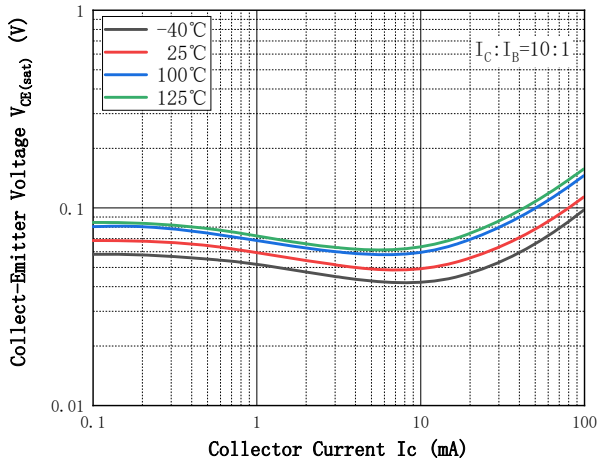


Fig. 4 - Base-Emmitter Voltage

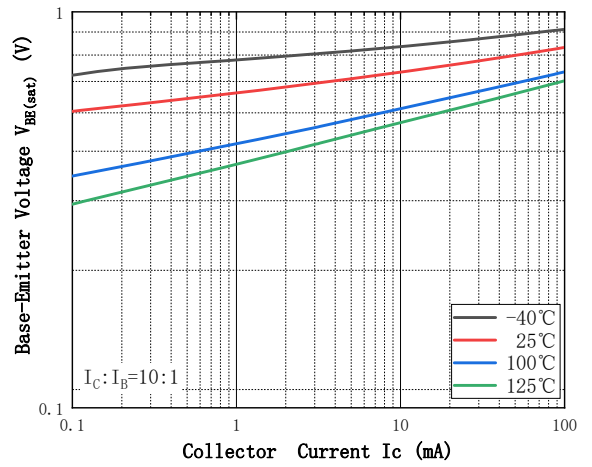


Fig. 5 - Base-Emmitter On Voltage

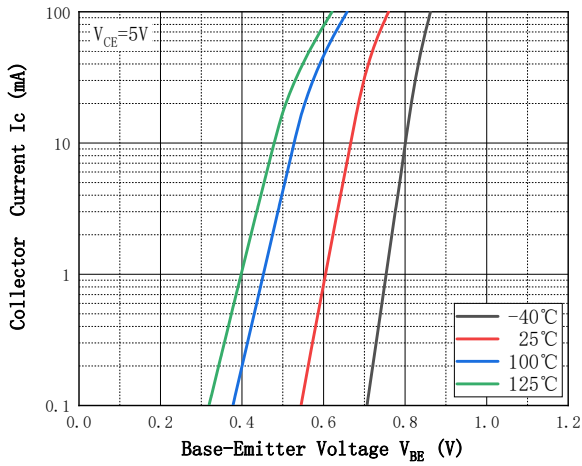
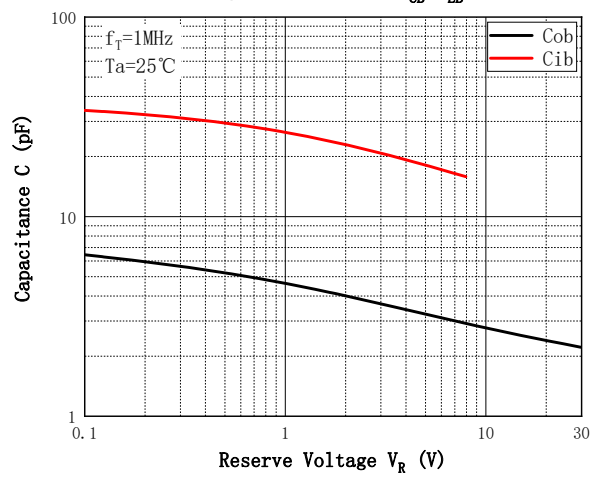


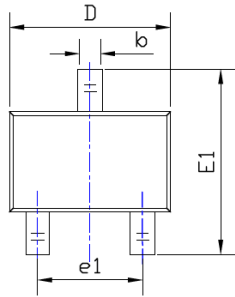
Fig. 6 - Cob/Cib— V_{CB}/V_{BE}



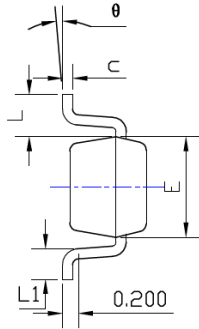


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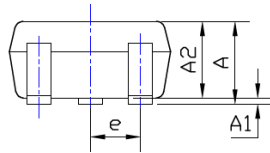
■SOT-323 Package Outline Dimensions & Suggested Pad Layout



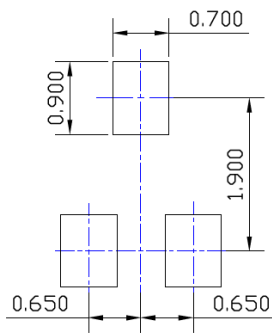
TOP VIEW



SIDE VIEW



SIDE VIEW



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.016	0.150	0.400
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
theta	0°	8°	0°	8°

NOTE:

- 1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
- 2.TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
- 3.THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.



MMST5551Q

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