

SOT-323 Plastic-Encapsulate Transistors

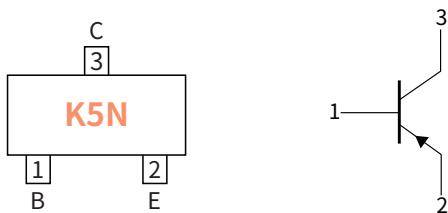
Features

- Power dissipation of 200mW
- High stability and high reliability

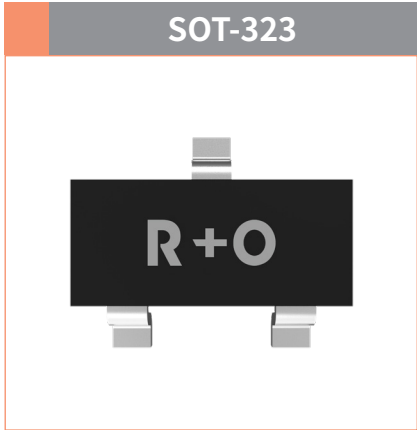
Mechanical Data

- Case: SOT-323
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant,halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

Function Diagram



Collector-Emitter Voltage
VCEO -40V
Collector Current
-0.2 Ampere



Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-323	R1	0.008	3000	45000	180000	7"

Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Collector-Base Voltage	V _{CBO}	V	-40
Collector-Emitter Voltage	V _{CEO}		-40
Emitter-Base Voltage	V _{EBO}		-5.0
Collector Current	I _C	A	-0.2
Collector Power Dissipation	P _C	mW	200
Storage temperature	T _{stg}	°C	-55 ~+150
Junction temperature	T _j	°C	-55 ~+150
Typical Thermal Resistance	R _{θJA}	°C /W	625

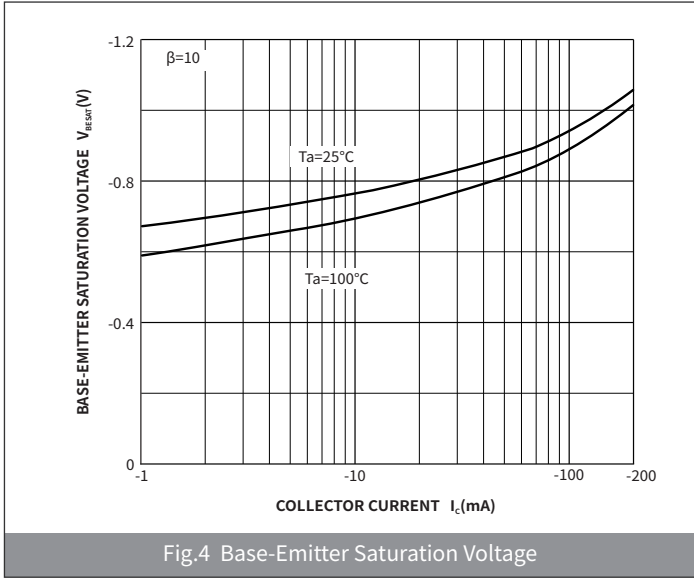
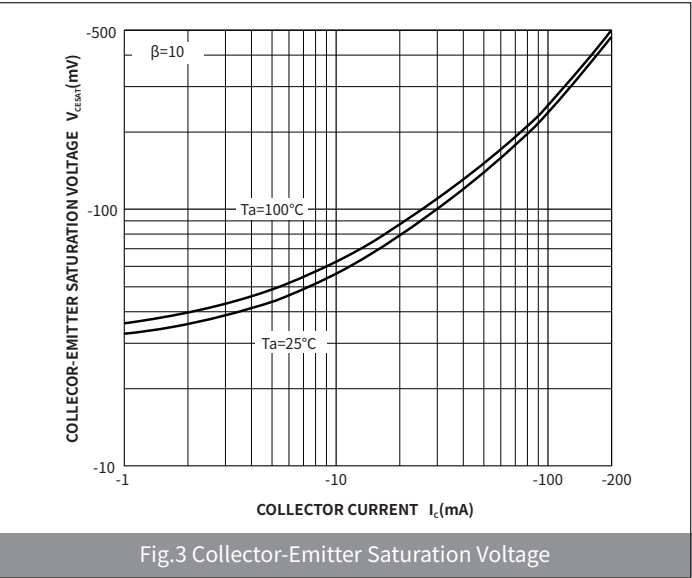
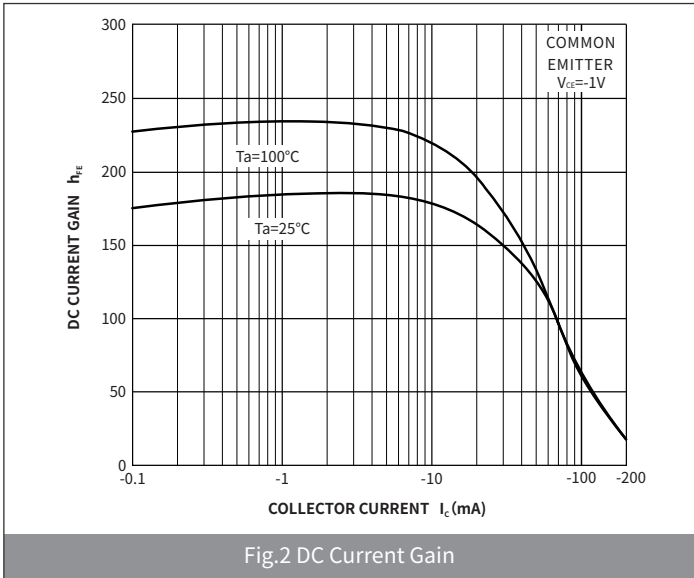
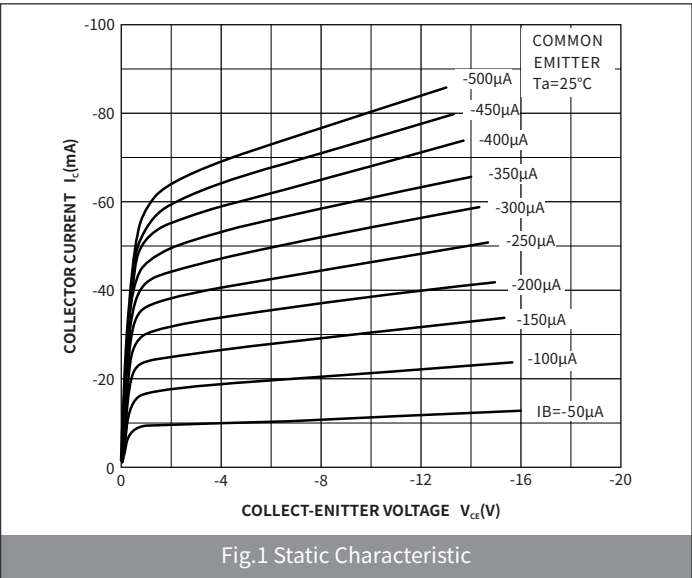
Small-signal Characteristics

ITEM	SYMBOL	Condition	UNIT	Min	Max
Transition frequency	f _T	I _C =-10mA, V _{CE} =-20V,f=100MHz	MHz	300	—

Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	SYMBOL	UNIT	Condition	Min	Max
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	$I_C=-10\mu A, I_E=0$	-40	—
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$		$I_C=-1.0mA, I_B=0$	-40	—
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$		$I_E=-10\mu A, I_C=0$	-5.0	—
Collector-Emitter cut-off current	I_{CEO}	nA	$V_{CE}=-30V, V_{BE(off)}=-3V$	—	-100
Collector-Base cut-off current	I_{CBO}		$V_{CB}=-40V, I_E=0$	—	-50
Collector cut-off current	I_{EBO}		$V_{EB}=-5V, I_C=0$	—	-100
DC Current Gain	$h_{FE(1)}$	—	$I_C=-10mA, V_{CE}=-1.0V$	100	300
	$h_{FE(2)}$		$I_C=-100mA, V_{CE}=-1.0V$	30	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=-50mA, I_B=-5.0mA$	—	-0.3
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=-50mA, I_B=-5.0mA$	—	-0.95

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



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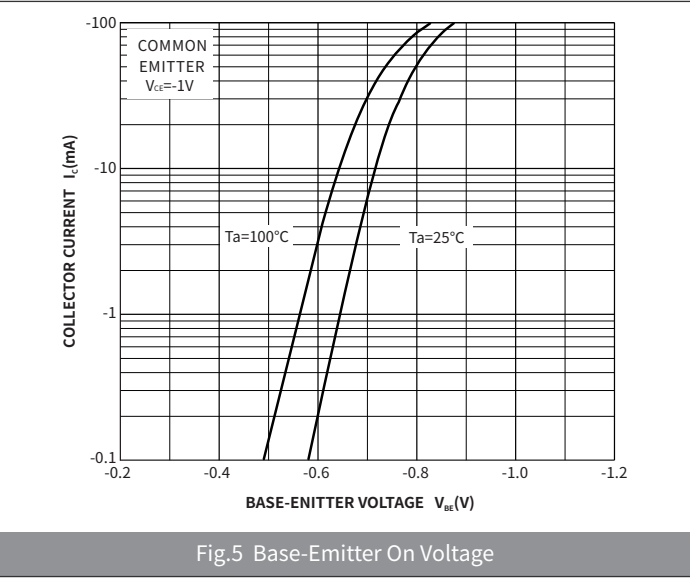


Fig.5 Base-Emitter On Voltage

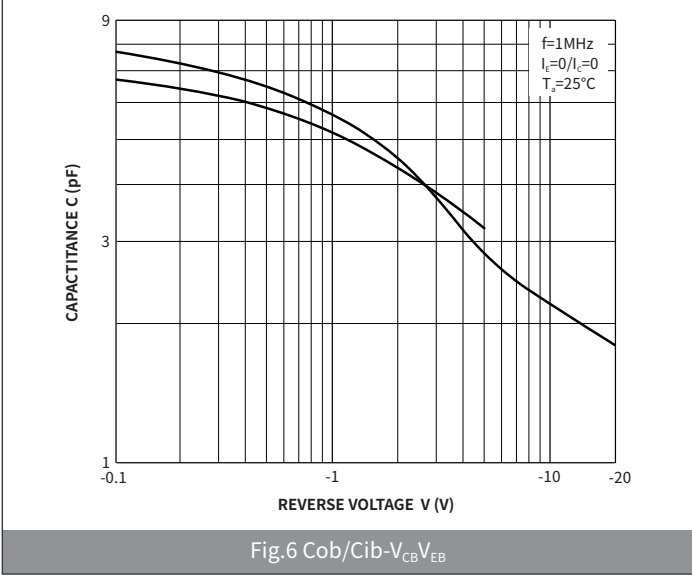
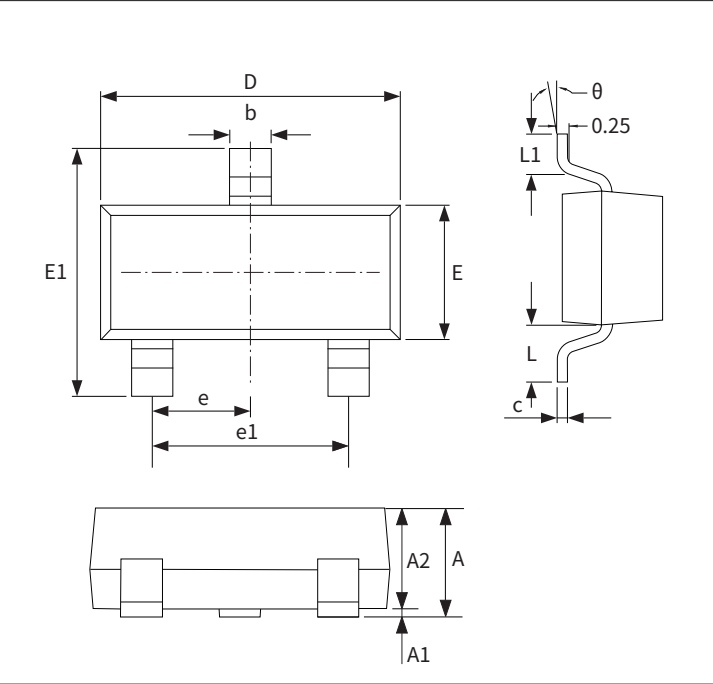


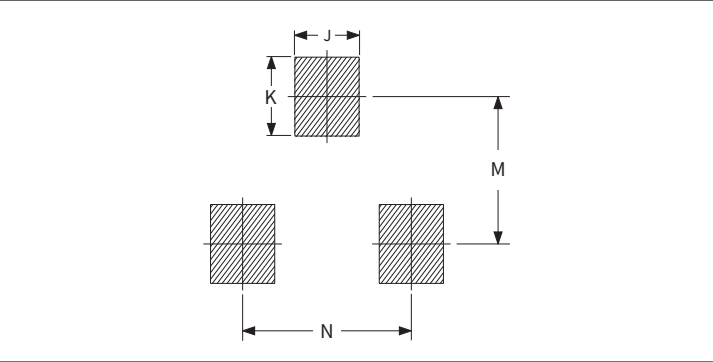
Fig.6 Cob/Cib-V_{CB} V_{EB}

● Package Outline Dimensions (SOT-323)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.10	0.035	0.043
A1	-	0.10	-	0.004
A2	0.90	1.00	0.035	0.039
b	0.15	0.40	0.012	0.020
c	0.10	0.25	0.004	0.010
D	1.80	2.20	0.071	0.087
E	1.15	1.35	0.045	0.053
E1	2.15	2.45	0.085	0.096
e	0.650TYP		0.026TYP	
e1	1.20	1.40	0.047	0.055
L	0.525REF		0.021REF	
L1	0.26	0.46	0.010	0.018
θ	-	8°	-	8°

● Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.65	0.75	0.026	0.030
K	0.85	0.95	0.033	0.037
M	2.15	2.25	0.083	0.087
N	1.25	1.35	0.049	0.053