

SOT-323 Plastic-Encapsulate Transistors

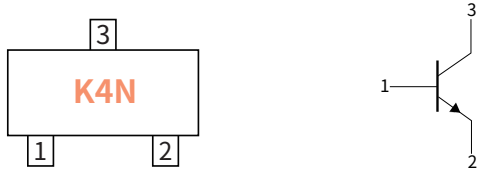
Features

- Switching and amplification in high voltage
- Applications such as telephony
- Power dissipation of 200mW
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

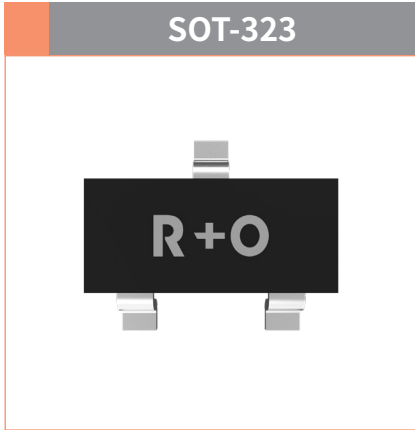
Mechanical Data

- 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-Base Voltage
VCBO 180V
Collector Current
0.6 Ampere



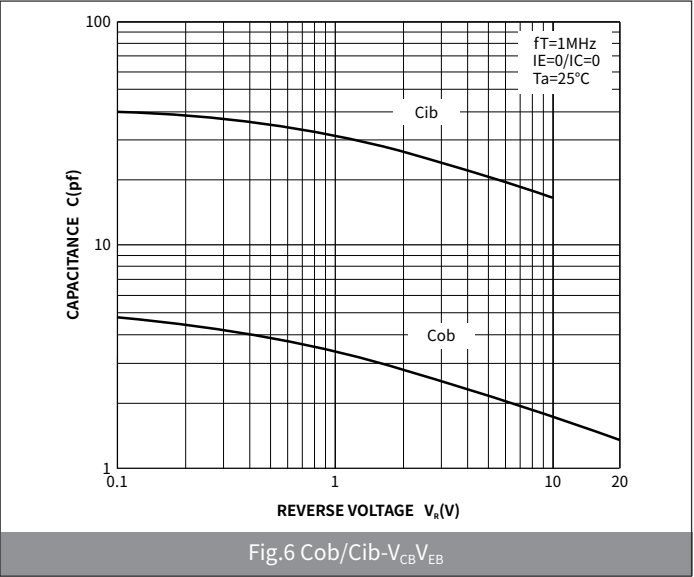
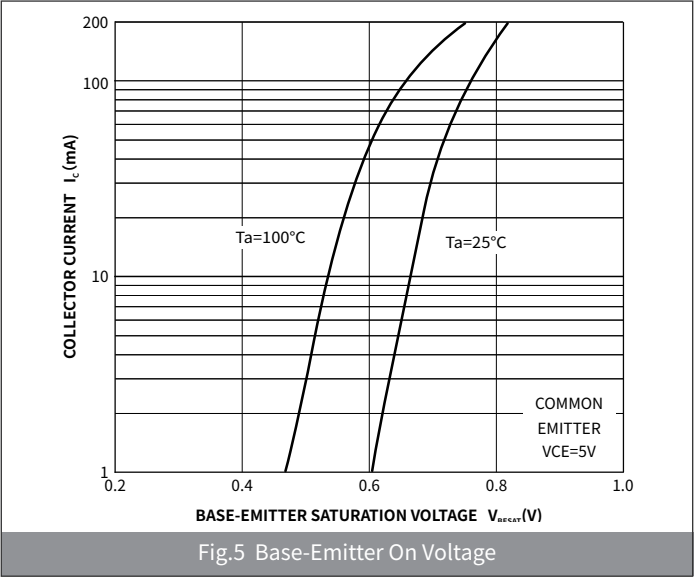
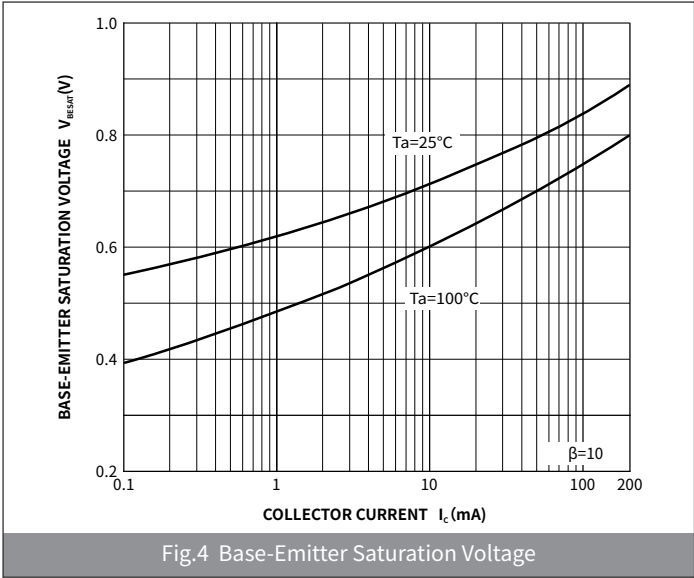
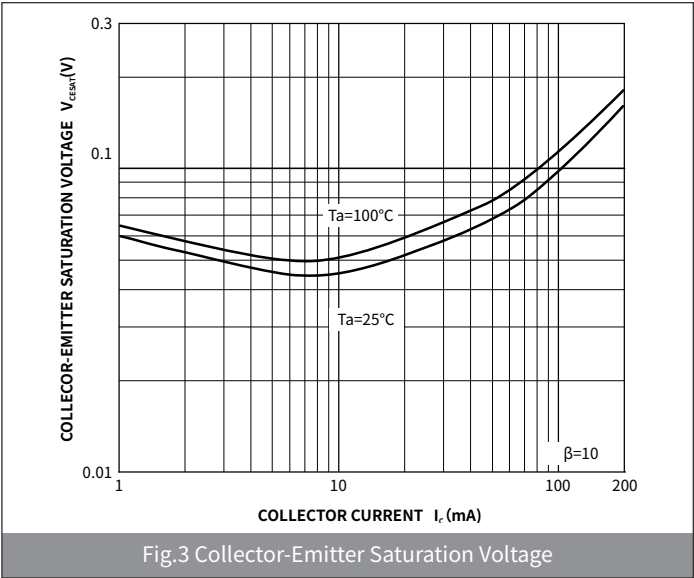
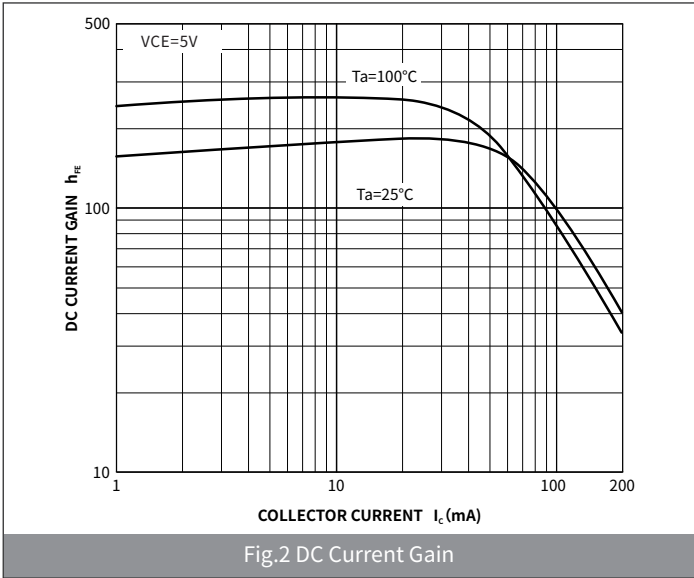
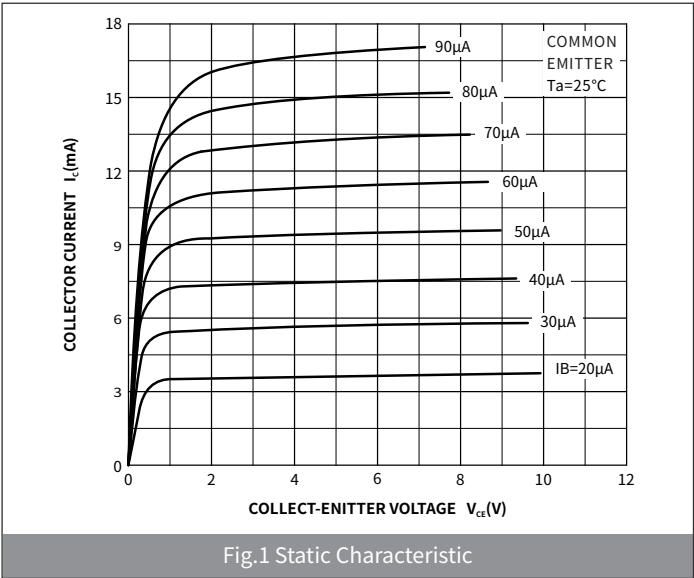
Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Collector-Base Voltage	V_{CBO}	V	180
Collector-Emitter Voltage	V_{CEO}		160
Emitter-Base Voltage	V_{EBO}		6.0
Collector Current	I_C	A	0.6
Collector Power Dissipation	P_C	mW	200
Storage temperature	T_{stg}	°C	-55 ~+150
Junction temperature	T_j	°C	-55 ~+150
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	625

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

PARAMETER	SYMBOL	UNIT	Condition	Min	Type	Max
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	$I_C=100\mu A, I_E=0$	180	—	—
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$		$I_C=1mA, I_B=0$	160	—	—
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$		$I_E=100\mu A, I_C=0$	6.0	—	—
Collector-Emitter cut-off current	I_{CBO}	nA	$V_{CE}=120V, I_B=0$	—	—	50
Emitter-Base cut-off current	I_{EBO}		$V_{EB}=4.0V, I_C=0$	—	—	50
DC Current Gain	$h_{FE(1)}$	—	$I_C=1.0mA, V_{CE}=5.0V$	80	—	—
	$h_{FE(2)}$		$I_C=10mA, V_{CE}=5.0V$	80	—	300
	$h_{FE(3)}$		$I_C=50mA, V_{CE}=5.0V$	30	—	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=10mA, I_B=1mA$	—	—	0.15
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=10mA, I_B=1mA$	—	—	1
Collector output capacitance	C_{ob}	pF	$V_{CB}=10V, I_E=0, f=1MHz$	—	—	6

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



Small-signal Characteristics

Table with 7 columns: ITEM, SYMBOL, Condition, UNIT, Min, Typ, Max. Row 1: Transition frequency, f_T, I_C=10mA, V_CE=10V, f=100MHz, MHz, 100, —, 300.

Ordering Information

Table with 7 columns: PACKAGE, PACKAGE CODE, UNIT WEIGHT(g), REEL(pcs), BOX(pcs), CARTON(pcs), DELIVERY MODE. Row 1: SOT-323, R1, 0.005, 3000, 45000, 180000, 7".

Package Outline Dimensions (SOT-323)

Table with 5 columns: Symbol, Dimensions (Millimeters/Inches), and 4 rows of dimensions (A, A1, A2, b, c, D, E, E1, e, e1, L, L1, theta). Includes diagrams of the SOT-323 package.

Suggested Pad Layout

Table with 5 columns: Symbol, Dimensions (Millimeters/Inches), and 4 rows of dimensions (J, K, M, N). Includes diagrams of the suggested pad layout.