

SOT-23 Plastic-Encapsulate Transistors

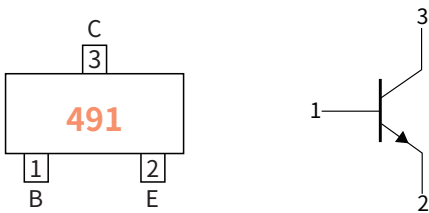
Features

- Power dissipation of 250mW
- NPN Low equivalent on-resistance
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

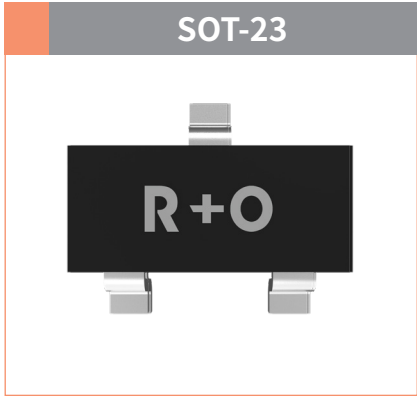
Mechanical Data

- Case: SOT-23
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 80V
Collector Current
1.0 Ampere



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

PARAMETER	SYMBOL	UNIT	VALUE
Collector-Base Voltage	V_{CBO}	V	80
Collector-Emitter Voltage	V_{CEO}		60
Emitter-Base Voltage	V_{EBO}		5.0
Collector Current	I_C	A	1.0
Collector Power Dissipation	P_C	mW	250
Storage temperature	T_{stg}	°C	-55 ~+150
Junction temperature	T_j	°C	150
Typical Thermal Resistance	$R_{\theta JA}$	°C /W	500

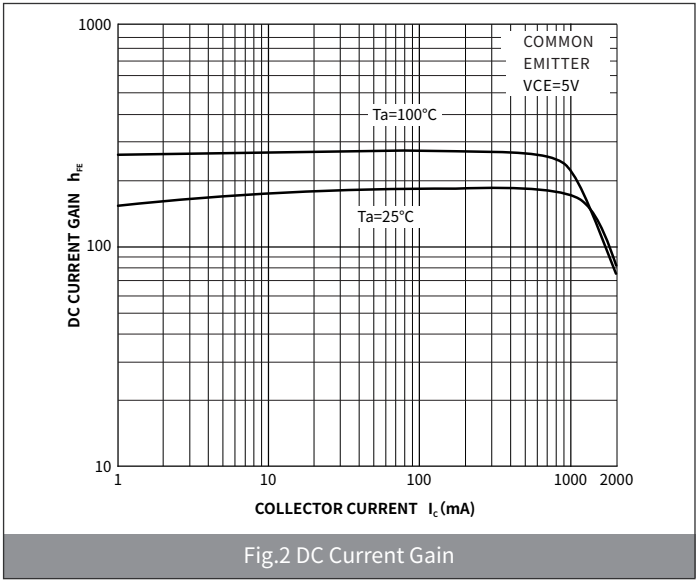
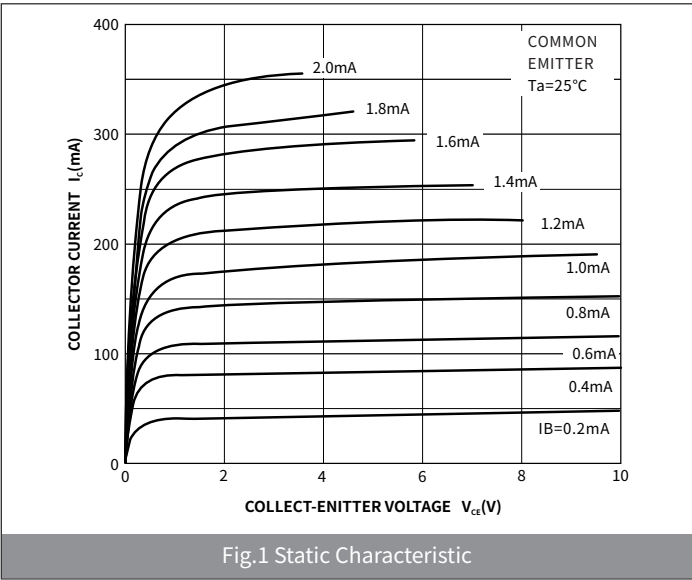
Small-signal Characteristics

ITEM	SYMBOL	Condition	UNIT	Min	Typ	Max
Transition frequency	f_T	$I_C= 50mA, V_{CE}= 10V$	MHz	150	—	—

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

PARAMETER	SYMBOL	UNIT	Condition	Min	Typ	Max
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	$I_C=100\mu A, I_E=0$	80	—	—
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$		$I_C=10mA, I_B=0$	60	—	—
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$		$I_E=100\mu A, I_C=0$	5.0	—	—
Collector-Base cut-off current	I_{CBO}	nA	$V_{CB}=60V, I_E=0$	—	—	100
Emitter-Base cut-off current	I_{EBO}		$V_{EB}=4.0V, I_C=0$	—	—	100
DC Current Gain	$h_{FE(1)}$	—	$I_C=1mA, V_{CE}=5.0V$	100	—	300
	$h_{FE(2)}$	—	$I_C=500mA, V_{CE}=5.0V$	100	—	300
	$h_{FE(3)}$	—	$I_C=1.0A, V_{CE}=5.0V$	80	—	300
	$h_{FE(4)}$	—	$I_C=2.0A, V_{CE}=5.0V$	30	—	300
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=500mA, I_B=50mA$	—	—	0.25
		V	$I_C=1000mA, I_B=100mA$			0.5
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=1000mA, I_B=100mA$	—	—	1.1
Base-Emitter On Voltage	$V_{BE(on)}$	V	$V_{CE}=5V, I_C=1000mA$	—	—	1
Output Capacitance	C_{ob}	pF	$V_{CB}=10V, I_E=0, f=1MHZ$	—	10	—

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



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

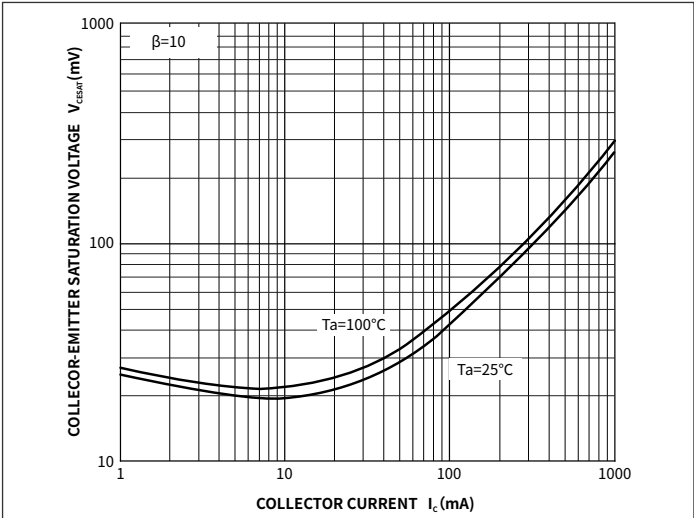


Fig.3 Collector-Emitter Saturation Voltage

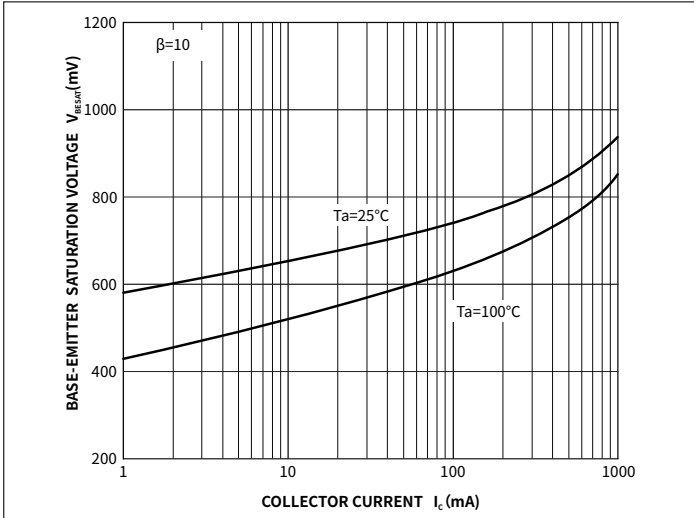


Fig.4 Base-Emitter Saturation Voltage

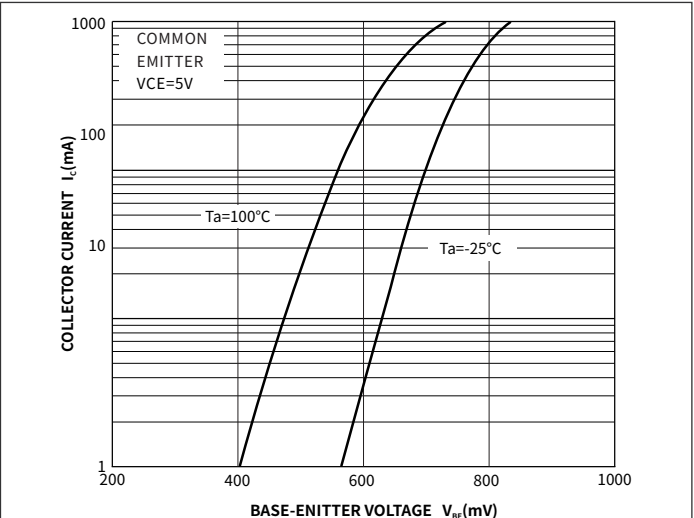


Fig.5 Base-Emitter On Voltage

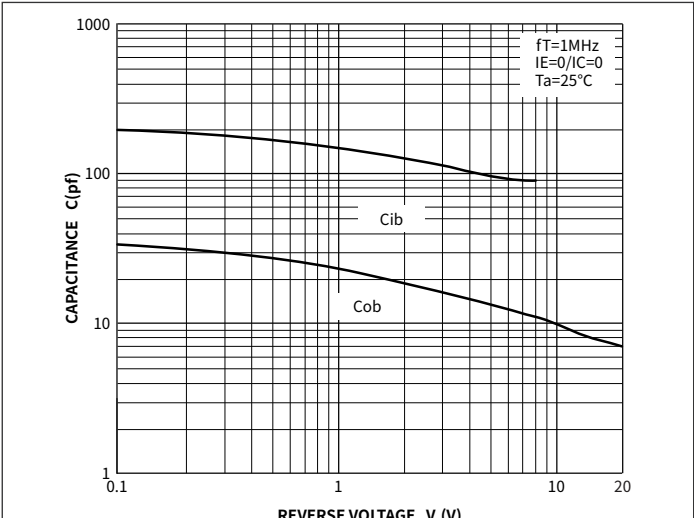


Fig.6 $C_{ob}/C_{ib}-V_{CB}V_{EB}$

● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	45000	180000	7"

● Package Outline Dimensions (SOT-23)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	-	0.10	-	0.004
A2	0.90	1.05	0.035	0.041
b	0.30	0.50	0.012	0.020
c	0.10	0.20	0.004	0.008
D	2.80	3.00	0.110	0.118
E	1.20	1.40	0.047	0.055
E1	2.25	2.55	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.80	2.00	0.071	0.079
L	0.550REF		0.022REF	
L1	0.30	0.50	0.012	0.020
θ	-	8°	-	8°

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.75	0.85	0.030	0.033
K	0.85	0.95	0.033	0.037
M	1.95	2.05	0.077	0.081
N	1.85	1.95	0.073	0.077

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Bipolar Transistors - BJT](#) *category:*

Click to view products by [hongjiacheng](#) *manufacturer:*

Other Similar products are found below :

[MCH4017-TL-H](#) [MMBT-2369-TR](#) [NJVMJD148T4G](#) [NTE16](#) [NTE195A](#) [2N4401-A](#) [2N6728](#) [2SB1204S-TL-E](#) [2SC4731T-AY](#) [2SC5488A-TL-H](#) [FMC5AT148](#) [2N2369ADCSM](#) [2N2907A](#) [2N3904-NS](#) [2SB1324-TD-E](#) [2SC5231C8-TL-E](#) [CPH6501-TL-E](#) [BULD128DT4](#) [CPH6021-TL-H](#) [MCH6102-TL-E](#) [2N3879](#) [30A02MH-TL-E](#) [NTE13](#) [NTE282](#) [NTE350](#) [NTE81](#) [JANSR2N2907AUB](#) [JANSR2N2222AUB](#) [CMLT3946EG TR](#) [SNSS40600CF8T1G](#) [CMLT3906EG TR](#) [GRP-DATA-JANS2N2907AUB](#) [GRP-DATA-JANS2N2222AUA](#) [MMDT3946FL3-7](#) [2N4240](#) [JANS2N3019](#) [MSB30KH-13](#) [2N2221AUB](#) [2SD1815T-TL-E](#) [Jantxv2N3810](#) [2N6678](#) [2N2907Ae4](#) [2N3963](#) [50C02MH-TL-E](#) [Jantx2N5415](#) [CPH3123-TL-E](#) [SMBT35200MT1G](#) [SMMJT350T1G](#) [NSVDTA113EM3T5G](#) [MBT3904DW1T1H](#)