

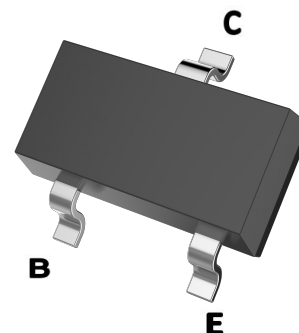
FEATURES

Low equivalent on-resistance

Marking :491

MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_{C}	Continuous Collector Current	1	A
I_{CM}	Peak Pulse Current	2	A
P_{C}	Collector Power Dissipation	250	mW
T_{J}	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~150	$^{\circ}\text{C}$



SOT-23Polarity

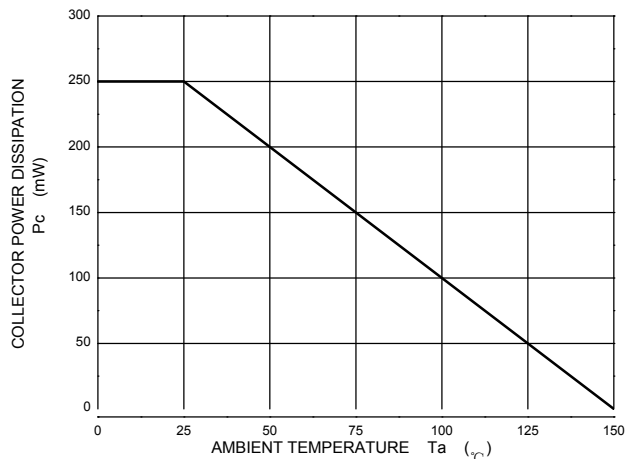
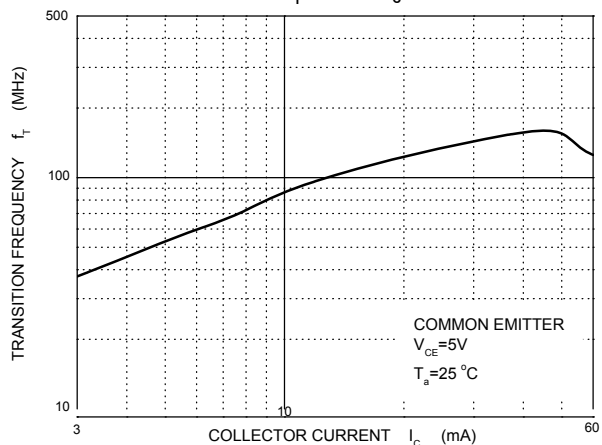
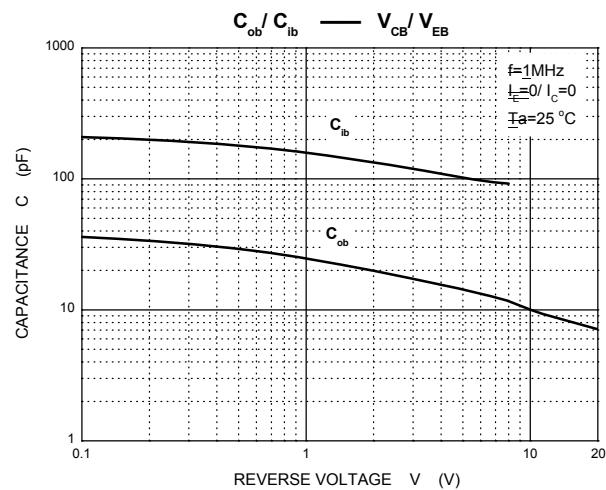
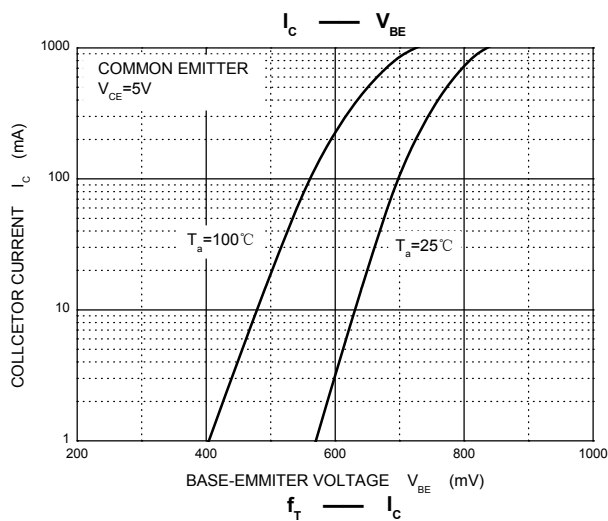
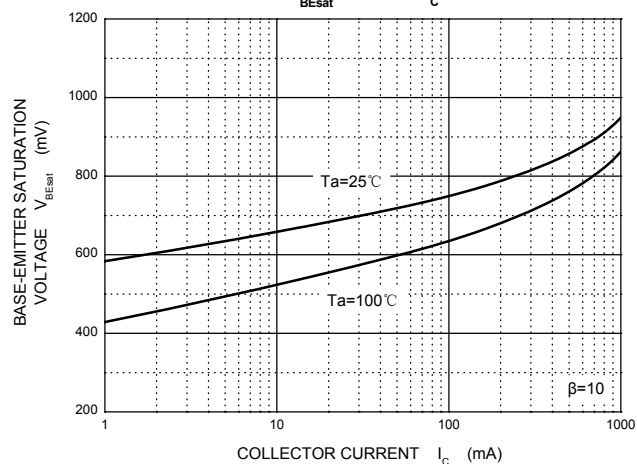
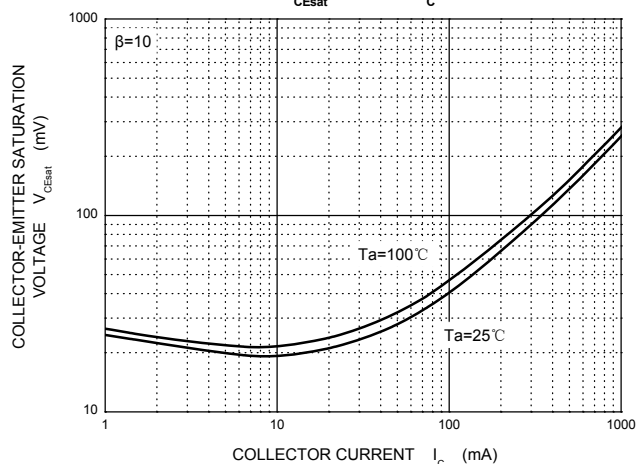
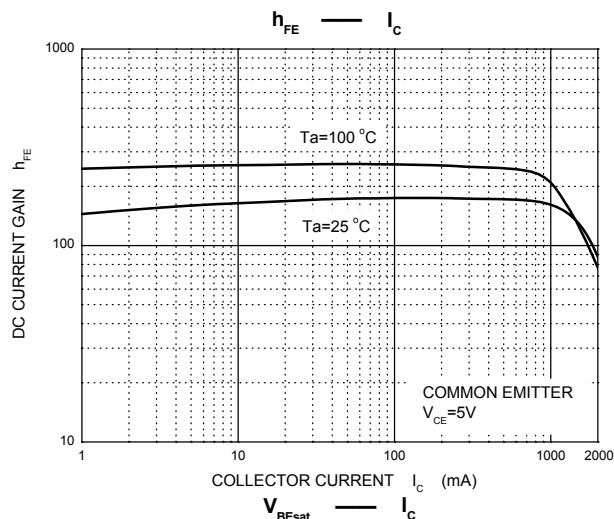
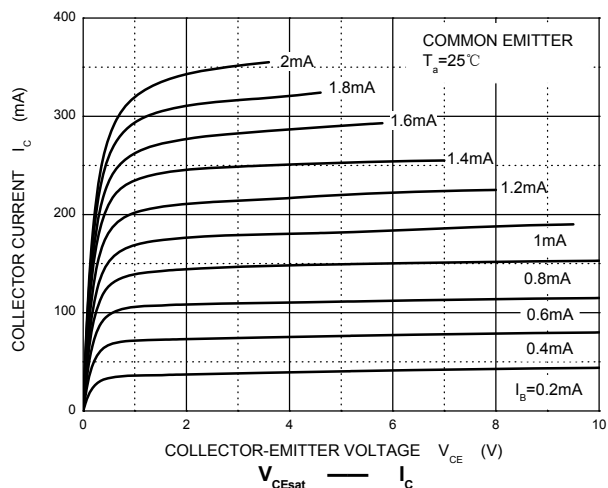
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

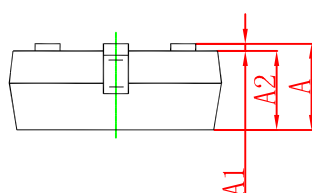
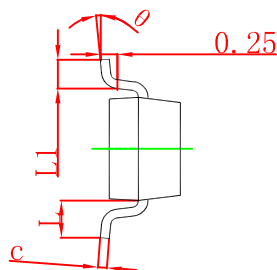
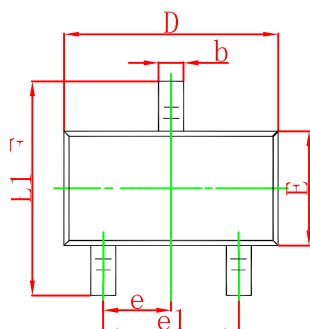
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	$I_{\text{C}}=100\mu\text{A}, I_{\text{E}}=0$	80			V
Collector-emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}^1$	$I_{\text{C}}=10\text{mA}, I_{\text{B}}=0$	60			V
Emitter-base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	$I_{\text{E}}=100\mu\text{A}, I_{\text{C}}=0$	5			V
Collector cut-off current	I_{CBO}	$V_{\text{CB}}=60\text{V}, I_{\text{E}}=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}}=4\text{V}, I_{\text{C}}=0$			0.1	μA
DC current gain	$h_{\text{FE}(1)}$	$V_{\text{CE}}=5\text{V}, I_{\text{C}}=1\text{mA}$	100			
	$h_{\text{FE}(2)}^1$	$V_{\text{CE}}=5\text{V}, I_{\text{C}}=500\text{mA}$	100		300	
	$h_{\text{FE}(3)}^1$	$V_{\text{CE}}=5\text{V}, I_{\text{C}}=1\text{A}$	80			
	$h_{\text{FE}(4)}^1$	$V_{\text{CE}}=5\text{V}, I_{\text{C}}=2\text{A}$	30			
Collector-emitter saturation voltage	$V_{\text{CE(sat)1}}^1$	$I_{\text{C}}=500\text{mA}, I_{\text{B}}=50\text{mA}$			0.25	V
	$V_{\text{CE(sat)2}}^1$	$I_{\text{C}}=1\text{A}, I_{\text{B}}=100\text{mA}$			0.5	V
Base-emitter saturation voltage	$V_{\text{BE(sat)}}^1$	$I_{\text{C}}=1\text{A}, I_{\text{B}}=100\text{mA}$			1.1	V
Base-emitter voltage	V_{BE}^1	$V_{\text{CE}}=5\text{V}, I_{\text{C}}=1\text{A}$			1	V
Transition frequency	f_{T}	$V_{\text{CE}}=10\text{V}, I_{\text{C}}=50\text{mA}, f=100\text{MHz}$	150			MHz
Collector output capacitance	C_{ob}	$V_{\text{CB}}=10\text{V}, f=1\text{MHz}$			10	pF

¹Measured under pulsed conditions, Pulse width=300 μs , Duty cycle $\leq 2\%$.

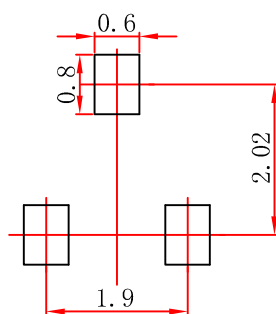
Typical Characteristics

Static Characteristic



SOT-23 Package Outline Dimensions


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout

Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.