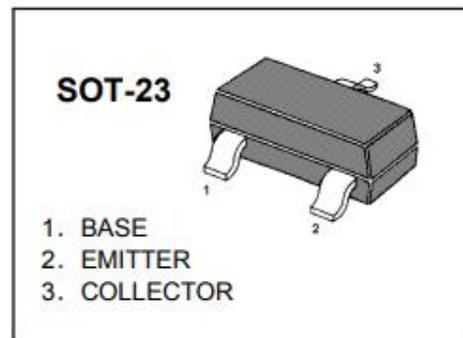
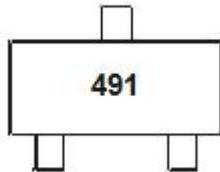


NPN Silicon Epitaxial Planar Transistor

Marking Information;



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	80	V
Collector-Emitter Voltage	V_{CE0}	60	V
Emitter-Base Voltage	V_{EB0}	7	V
Continuous Collector Current	I_C	1	A
Peak Pulse Current	I_{CM}	2	A
Base Current	I_B	200	mA

Thermal Characteristics($T_a = 25^\circ\text{C}$)

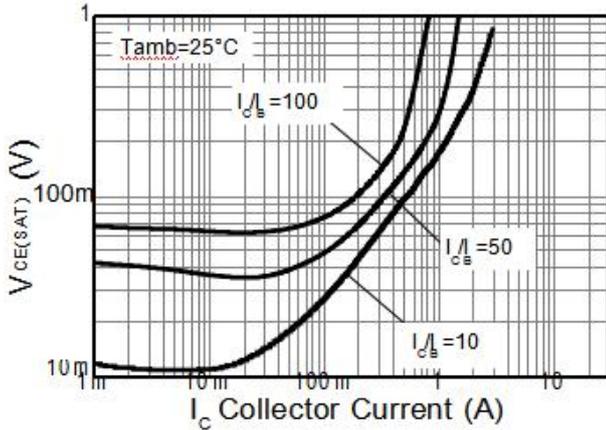
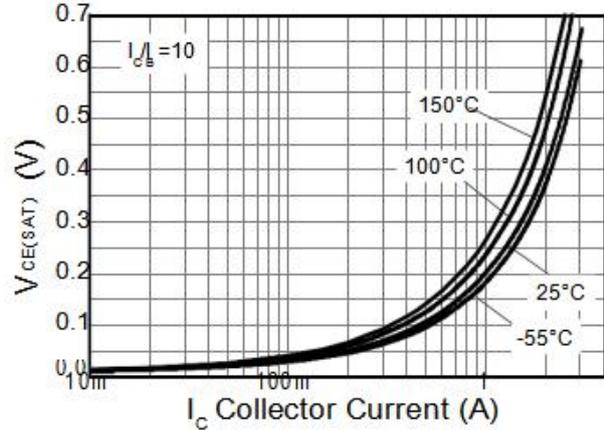
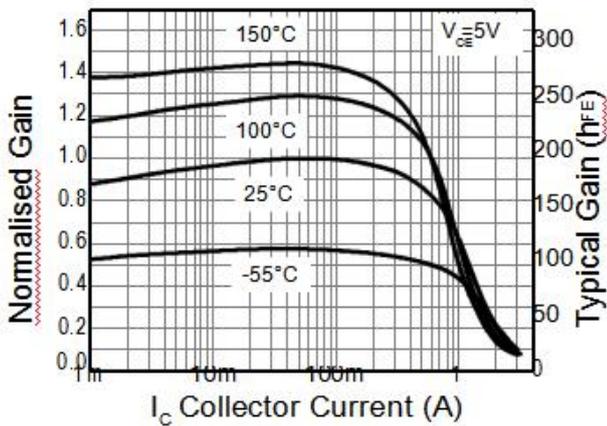
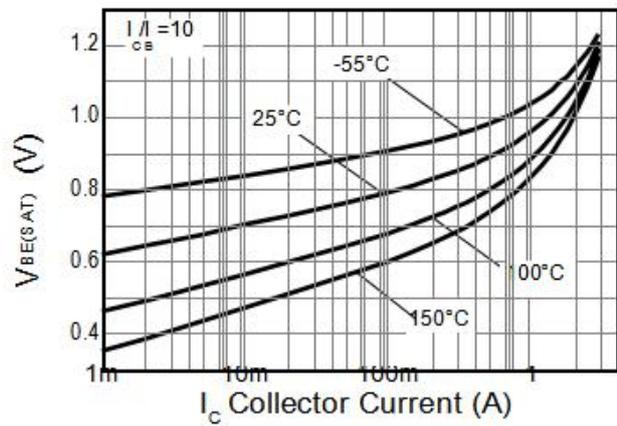
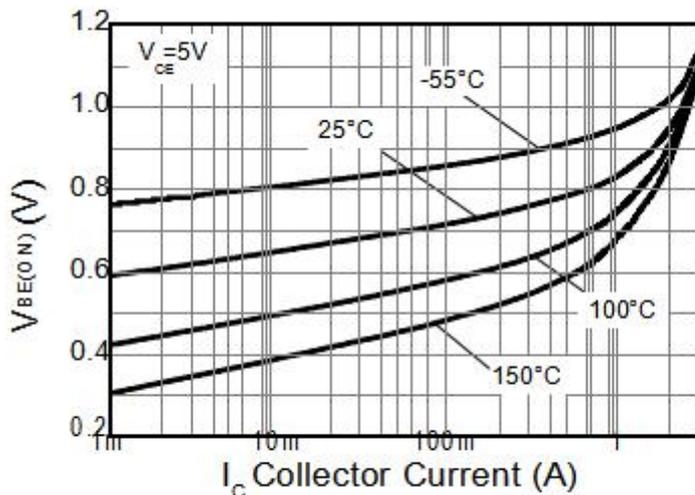
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	500	mW
Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	250	$^\circ\text{C} / \text{W}$
Thermal Resistance, Junction to Lead (Note 6)	$R_{\theta JL}$	197	$^\circ\text{C} / \text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

ESD Ratings

Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4,000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	400	V	C

Characteristics at $T_a = 25^\circ\text{C}$

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BV_{CBO}	80	—	—	V	$I_C = 100\mu\text{A}$
Collector-Emitter Breakdown Voltage (Note 8)	BV_{CEO}	60	—	—	V	$I_C = 10\text{mA}$
Emitter-Base Breakdown Voltage	BV_{EBO}	7	8.1	—	V	$I_E = 100\mu\text{A}$
Collector Cutoff Current	I_{CBO}	—	<1	100	nA	$V_{CB} = 60\text{V}$
Emitter Cutoff Current	I_{EBO}	—	<1	100	nA	$V_{EB} = 5.6\text{V}$
Collector Emitter Cutoff Current	I_{CES}	—	<1	100	nA	$V_{CE} = 60\text{V}, V_{CES} = 60\text{V}$
Static Forward Current Transfer Ratio (Note 8)	h_{FE}	100	140	—	—	$I_C = 1\text{mA}, V_{CE} = 5\text{V}$
		100	150	300		$I_C = 500\text{mA}, V_{CE} = 5\text{V}$
		80	120	—		$I_C = 1\text{A}, V_{CE} = 5\text{V}$
		30	40	—		$I_C = 2\text{A}, V_{CE} = 5\text{V}$
Collector-Emitter Saturation Voltage (Note 8)	$V_{CE(sat)}$	—	100	150	mV	$I_C = 500\text{mA}, I_B = 50\text{mA}$
		—	160	250		$I_C = 1\text{A}, I_B = 100\text{mA}$
Base-Emitter Turn-On Voltage(Note 8)	$V_{BE(on)}$	—	830	1000	mV	$I_C = 1\text{A}, V_{CE} = 5\text{V}$
Base-Emitter Saturation Voltage(Note 8)	$V_{BE(sat)}$	—	965	1100	mV	$I_C = 1\text{A}, I_B = 100\text{mA}$
Output Capacitance	C_{obo}	—	—	10	pF	$V_{CB} = 10\text{V}, f = 1\text{MHz}$
Transition Frequency	f_T	150	—	—	MHz	$V_{CE} = 10\text{V}, I_C = 50\text{mA}, f = 100\text{MHz}$

Typical Electrical Characteristics

 $V_{CE(SAT)} \text{ v } I_C$

 $V_{CE(SAT)} \text{ v } I_C$

 $h_{FE} \text{ v } I_C$

 $V_{BE(SAT)} \text{ v } I_C$

 $V_{BE(ON)} \text{ v } I_C$