



YOUSHANG SEMICONDUCTOR

设计研发新型功率器件

各类小信号开关

中低压及高压大电流等场效应管

0755-83047638

ysbdt@szyoushang.cn

www.szyoushang.cn



企业微信二维码



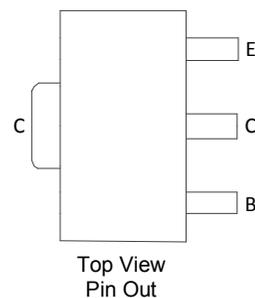
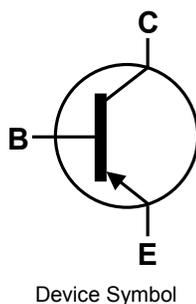
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Features

- $BV_{CEO} = -20V$
- $I_C = -2.5A$ Continuous Current
- Low Saturation Voltage $V_{CE(sat)} < -40mV @ -100mA$
- $R_{sat} = 96m\Omega$ for a Low Equivalent On-Resistance

Mechanical Data

- Case: SOT89
- Case Material: Molded Plastic. "Green" Molding Compound. UL Flammability Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 ^③
- Weight: 0.05 grams (Approximate)



Absolute Maximum Ratings (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-20	V
Collector-Emitter Voltage	V_{CEO}	-20	V
Emitter-Base Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	-2.5	A
Peak Pulse Collector Current (single pulse)	I_{CM}	-6	A
Base Current	I_B	-500	mA

Thermal Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

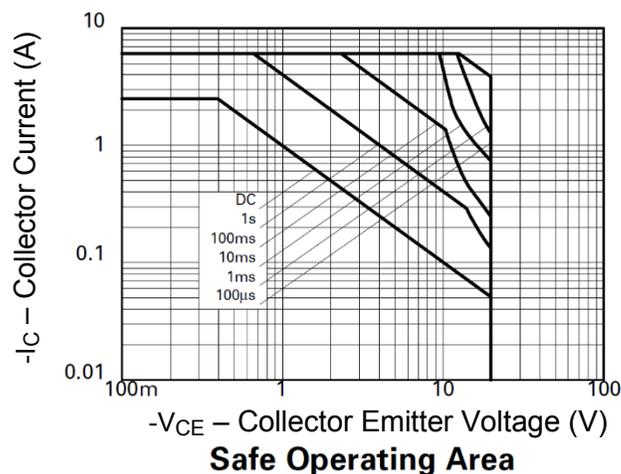
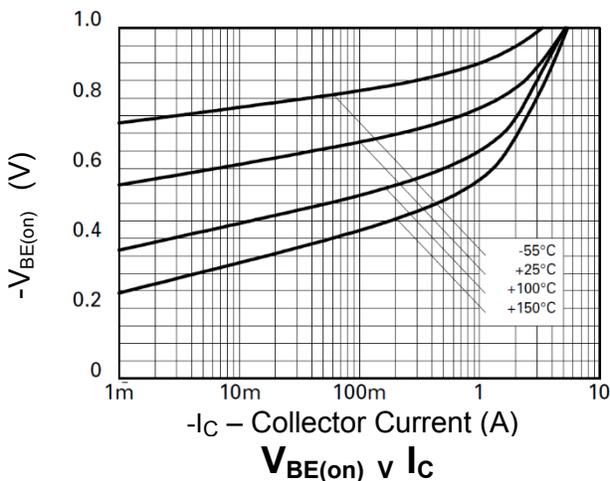
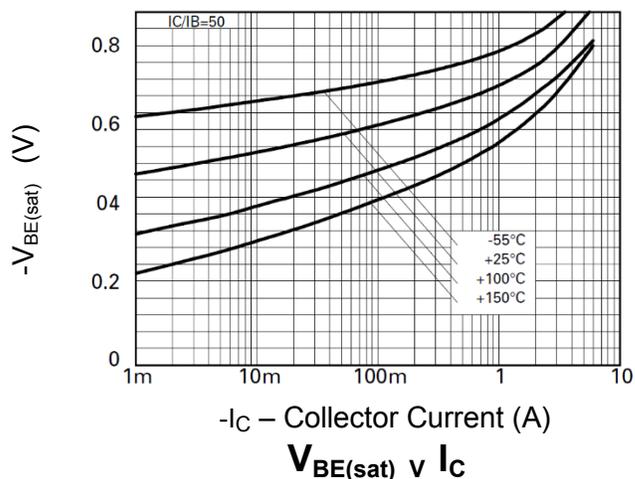
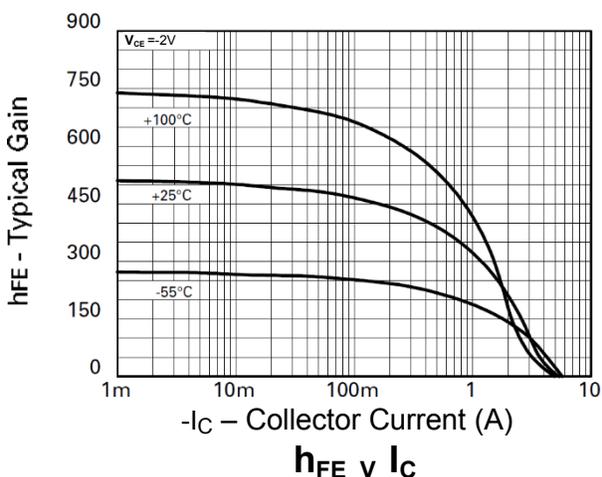
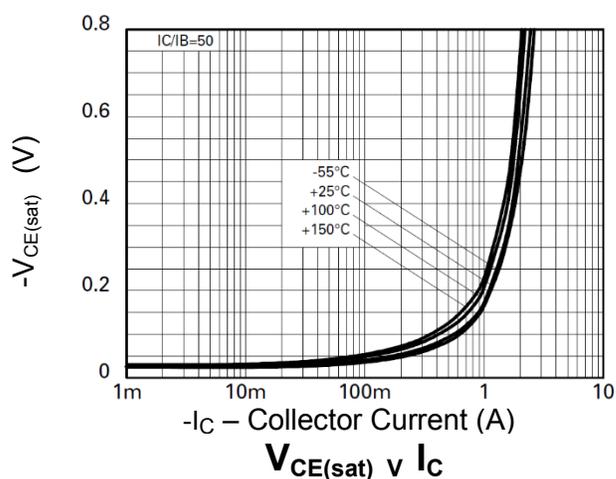
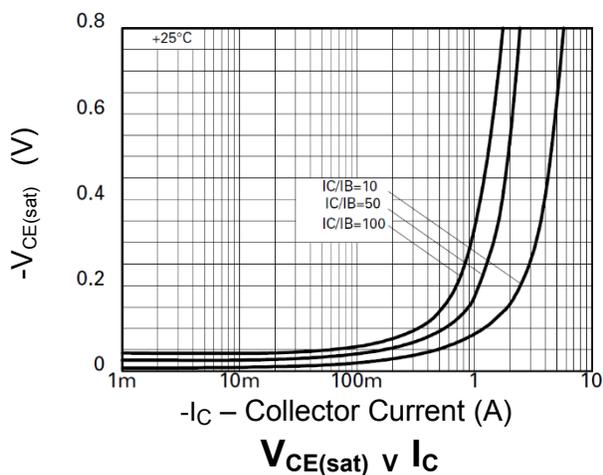
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	1	W
Power Dissipation (Note 6)	P_D	2	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

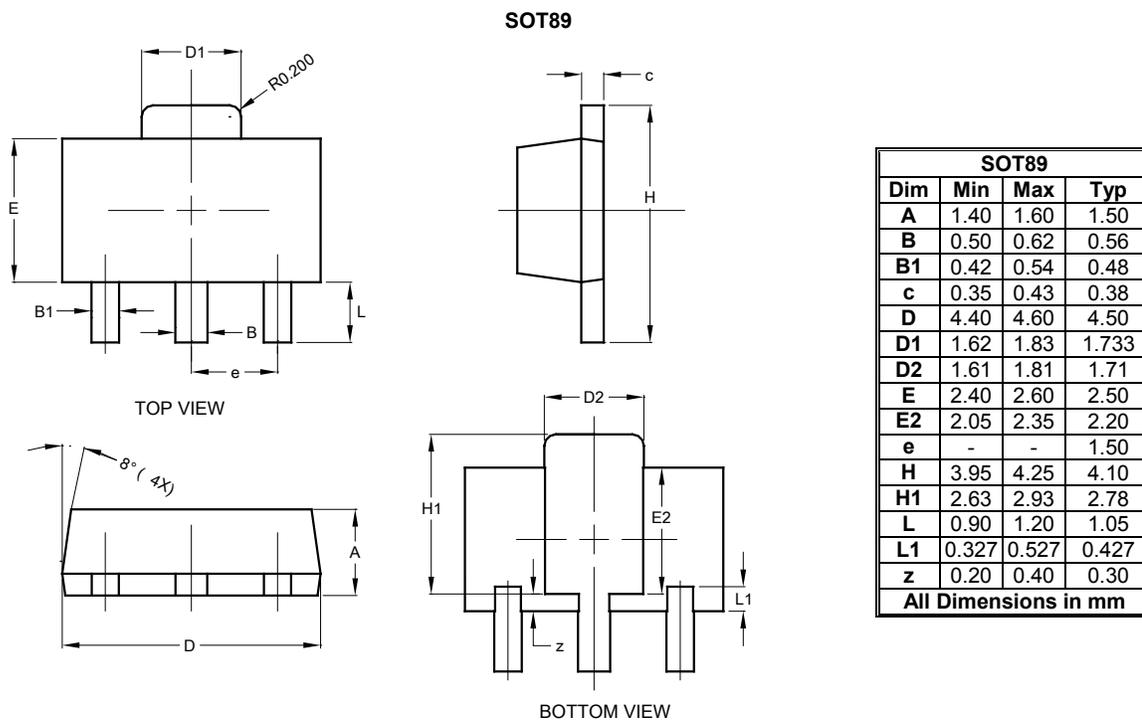
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BV_{CBO}	-20	-65	—	V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage (Note 7)	BV_{CEO}	-20	-55	—	V	$I_C = -10\text{mA}$
Emitter-Base Breakdown Voltage	BV_{EBO}	-5	-8.8	—	V	$I_E = -100\mu\text{A}$
Collector Cutoff Current	I_{CBO}	—	—	-100	nA μA	$V_{CB} = -15\text{V}$
Emitter Cutoff Current	I_{EBO}	—	—	-100	nA	$V_{EB} = -4\text{V}$
Collector-Emitter Cutoff Current	I_{CES}	—	—	-100	nA	$V_{CES} = -15\text{V}$
Collector-Emitter Saturation Voltage (Note 7)	$V_{CE(sat)}$	—	-16 -130 -145 —	-40 -200 -220 -300	mV	$I_C = -0.1\text{A}, I_B = -10\text{mA}$ $I_C = -1\text{A}, I_B = -20\text{mA}$ $I_C = -1.5\text{A}, I_B = -50\text{mA}$ $I_C = -2.5\text{A}, I_B = -200\text{mA}$
Base-Emitter Saturation Voltage (Note 7)	$V_{BE(sat)}$	—	-0.98	-1.1	mV	$I_C = -2.5\text{A}, I_B = -200\text{mA}$
Base-Emitter Turn-On Voltage (Note 7)	$V_{BE(on)}$	—	-0.85	-0.95	mV	$I_C = -2.5\text{A}, V_{CE} = -2\text{V}$
DC Current Gain (Note 7)	h_{FE}	300 300 150 35 15	475 450 230 70 30	—	—	$I_C = -10\text{mA}, V_{CE} = -2\text{V}$ $I_C = -0.1\text{A}, V_{CE} = -2\text{V}$ $I_C = -2\text{A}, V_{CE} = -2\text{V}$ $I_C = -4\text{A}, V_{CE} = -2\text{V}$ $I_C = -6\text{A}, V_{CE} = -2\text{V}$
Transitional frequency	f_T	150	180	—	MHz	$I_C = -50\text{mA}, V_{CE} = -10\text{V}$ $f = 100\text{MHz}$
Output Capacitance	C_{obo}	—	21	30	pF	$V_{CB} = -10\text{V}, f = 1\text{MHz}$
Switching Time	t_{on}	—	40	—	ns	$I_C = -0.75\text{A}, V_{CC} = -15\text{V},$ $I_{B1} = -I_{B2} = -15\text{mA}$
	t_{off}	—	670	—	ns	

- Notes:
5. For a device surface mounted on 15mm x 15mm x 0.6mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions; device measured when operating in steady state condition.
 6. Same as note (5), except the device is mounted on 40mm x 40mm x 0.6mm single sided 1oz weight copper.
 7. Measured under pulsed conditions. Pulse width $\leq 300\mu\text{s}$. Duty cycle $\leq 2\%$.

Typical Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)



Package Outline Dimensions



Suggested Pad Layout

