

# SOT89 PNP SILICON PLANAR MEDIUM POWER TRANSISTOR

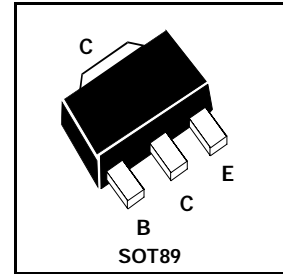
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## BSR30

COMPLEMENTARY TYPE – BSR40

PARTMARKING DETAIL – BR1



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-70	V
Collector-Emitter Voltage	$V_{CEO}$	-60	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Peak Pulse Current	$I_{CM}$	-2	A
Continuous Collector Current	$I_C$	-1	A
Power Dissipation at $T_{amb}=25^\circ\text{C}$	$P_{tot}$	1	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-65 to +150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-70		V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-60		V	$I_C = -10\text{mA}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5		V	$I_E = -10\mu\text{A}$
Collector Cut-Off Current	$I_{CBO}$		-100 -50	nA $\mu\text{A}$	$V_{CB} = -60\text{V}$ $V_{CB} = -60\text{V}, T_{amb} = 125^\circ\text{C}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.25 -0.5	V V	$I_C = -150\text{mA}, I_B = -15\text{mA}$ $I_C = -500\text{mA}, I_B = -50\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-1.0 -1.2	V V	$I_C = -150\text{mA}, I_B = -15\text{mA}$ $I_C = -500\text{mA}, I_B = -50\text{mA}$
Static Forward Current Transfer Ratio	$h_{FE}$	10 40 30	120		$I_C = -100\mu\text{A}, V_{CE} = -5\text{V}$ $I_C = -100\text{mA}, V_{CE} = -5\text{V}$ $I_C = -500\text{mA}, V_{CE} = -5\text{V}$
Collector Capacitance	$C_c$		20	pF	$V_{CB} = -10\text{V}, f = 1\text{MHz}$
Emitter Capacitance	$C_e$		120	pF	$V_{EB} = -0.5\text{V}, f = 1\text{MHz}$
Transition Frequency	$f_T$	100		MHz	$I_C = -50\text{mA}, V_{CE} = -10\text{V}$ $f = 35\text{MHz}$
Turn-On Time	$T_{on}$		500	ns	$V_{CC} = -20\text{V}, I_C = -100\text{mA}$
Turn-Off Time	$T_{off}$		650	ns	$I_{B1} = -I_{B2} = -5\text{mA}$

\*Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$   
For typical characteristics graphs see FM5T591 datasheet.