

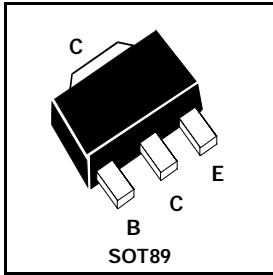
# SOT89 NPN SILICON PLANAR MEDIUM POWER TRANSISTORS

**BSR41  
BSR43**

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COMPLEMENTARY TYPES – BSR43 - BSR33  
BSR41 - BSR31

PARTMARKING DETAIL – BSR43 - AR4  
BSR41 - AR2



## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	BSR41	BSR43	UNIT
Collector-Base Voltage	$V_{CBO}$	70	90	V
Collector-Emitter Voltage	$V_{CEO}$	60	80	V
Emitter-Base Voltage	$V_{EBO}$	5		V
Peak Pulse Current	$I_{CM}$	2		A
Continuous Collector Current	$I_C$	1		A
Base Current	$I_B$	100		mA
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{TOT}$	1		W
Operating and Storage Temperature Range	$T_J; T_{stg}$	-65 to +150		$^{\circ}C$

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

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	90 70		V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	80 60		V	$I_C=10mA$ *
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		V	$I_E=10\mu A$
Collector Cut-Off Current	$I_{CBO}$		100 50	nA $\mu A$	$V_{CB}=60V$ $V_{CB}=60V, T_{amb} = 125^{\circ}C$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.25 0.5	V V	$I_C = 150mA, I_B = 15mA$ $I_C = 500mA, I_B = 50mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.0 1.2	V V	$I_C = 150mA, I_B = 15mA$ $I_C = 500mA, I_B = 50mA$
Static Forward Current Transfer Ratio	$h_{FE}$	30 100 50	300		$I_C = 100\mu A, V_{CE} = 5V$ $I_C = 100mA, V_{CE} = 5V$ $I_C = 500mA, V_{CE} = 5V$
Collector Capacitance	$C_c$		12	pF	$V_{CB} = 10V, f = 1MHz$
Emitter Capacitance	$C_e$		90	pF	$V_{EB} = 0.5V, f = 1MHz$
Transition Frequency	$f_T$	100		MHz	$I_C = 50mA, V_{CE} = 10V$ $f = 35MHz$
Turn-On Time	$T_{on}$		250	ns	$V_{CC} = 20V, I_C = 100mA$
Turn-Off Time	$T_{off}$		1000	ns	$I_{B1} = I_{B2} = 5mA$

\*Measured under pulsed conditions. Pulse width=300 $\mu s$ . Duty cycle  $\leq 2\%$   
For typical characteristics graphs see FMMT493 datasheet.