

**SOT89 NPN SILICON PLANAR
MEDIUM POWER TRANSISTOR**

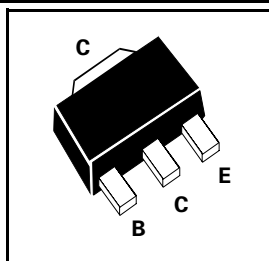
BSR42

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COMPLEMENTARY TYPE – BSR32

PARTMARKING DETAIL – AR3



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	90	V
Collector-Emitter Voltage	V_{CEO}	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		V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	80		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 μA	$V_{CB}=60V$ $V_{CB}=60V, T_{amb}=125^{\circ}C$
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}	10 40 30	120		$I_C = 100\mu A, V_{CE}=5V$ $I_C = 100mA, V_{CE}=5V$ $I_C = 500mA, V_{CE}=5V$
Output Capacitance	C_{obo}		12	pF	$V_{CB} = 10V, f = 1MHz$
Input Capacitance	C_{ibo}		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.

For typical characteristics graphs see FMMT493 datasheet.

