SOT89 NPN SILICON PLANAR MEDIUM POWER TRANSISTORS

BSR40
BSR42

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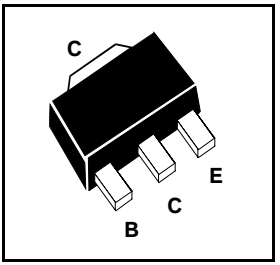
COMPLEMENTARY TYPES – BSR40 – BSR30
BSR42 – BSR32

PARTMARKING DETAIL – BSR40 – AR1
BSR42 – AR3



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	BSR40	BSR42	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°C	P_{tot}	1		W
Operating and Storage Temperature Range	T_j:T_{stg}	-65 to +150		°C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage BSR40 BSR42	$V_{(BR)CBO}$	70 90		V V	I_C=100μA I_C=100μA
Collector-Emitter Breakdown Voltage BSR40 BSR42	$V_{(BR)CEO}$	60 80		V V	I_C=10mA I_C=10mA
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		V	I_E=10μA
Collector Cut-Off Current	I_{CBO}		100 50	nA μA	V_{CB}=60V V_{CB}=60V, T_{amb}=125°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 =100μA, 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 Capacitence	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 I_{B1} =-I_{B2} =-5mA
Turn-Off Time	T_{off}		1000	ns	

*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤2%
For typical characteristics graphs see FMMT493 datasheet.