

# SOT223 NPN SILICON PLANAR MEDIUM POWER TRANSISTORS

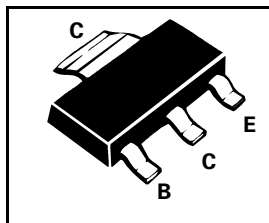
ISSUE 4 – MARCH 2001



## BSP43

COMPLEMENTARY TYPE – BSP33

PARTMARKING DETAIL – BSP43



### 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 $T_{amb}=25^{\circ}C$	$P_{TOT}$	2	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 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 $\mu A$	$V_{CB} = 60V$ $V_{CB} = 60V, T_{amb} = 125^{\circ}C$
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		$I_C = 100\mu A, V_{CE} = 5V$ $I_C = 100mA, V_{CE} = 5V$ $I_C = 500mA, V_{CE} = 5V$
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.