

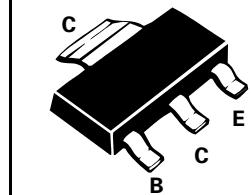
# SOT223 NPN SILICON PLANAR MEDIUM POWER TRANSISTORS

ISSUE 3 – NOVEMBER 1995 ☺

**BSP41  
BSP43**

COMPLEMENTARY TYPES – BSP43 - BSP33  
BSP41 - BSP31

PARTMARKING DETAIL – DEVICE TYPE IN FULL



## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	BSP41	BSP43	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 $T_{amb}=25^\circ C$	$P_{TOT}$		2	W
Operating and Storage Temperature Range	$T_j:T_{stg}$		-55 to +150	°C

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

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage BSP43 BSP41	$V_{(BR)CBO}$	90 70		V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage BSP43 BSP41	$V_{(BR)CEO}$	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=300μs. Duty cycle ≤2%  
For typical characteristics graphs see FMMT493 datasheet.