

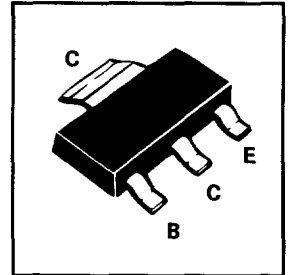
SOT223 PNP SILICON PLANAR MEDIUM POWER TRANSISTORS

BSP31 BSP33

ISSUE 3 – FEBRUARY 1996

COMPLEMENTARY TYPE – BSP31 – BSP41
BSP33 – BSP43

PARTMARKING DETAIL – Device type in full



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	BSP31	BSP33	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
Power Dissipation at $T_{amb}=25^\circ\text{C}$	P_{TOT}		2	W
Operating and Storage Temperature Range	$T_j; T_{stg}$		-55 to +150	$^\circ\text{C}$

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

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-70 -90		V	$I_C = -100\mu\text{A}$ $I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-60 -80		V	$I_C = -10\text{mA}$ $I_C = -10\text{mA}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5		V	$I_E = -10\mu\text{A}$
Collector Cut-Off Current	I_{CBO}		-100 -50	nA μA	$V_{CB} = -60\text{V}$ $V_{CB} = -60\text{V}, T_{amb} = 125^\circ\text{C}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.25 -0.5	V	$I_C = -150\text{mA}, I_B = -15\text{mA}$ $I_C = -500\text{mA}, I_B = -50\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-1.0 -1.2	V	$I_C = -150\text{mA}, I_B = -15\text{mA}$ $I_C = -500\text{mA}, I_B = -50\text{mA}$
Static Forward Current Transfer Ratio	h_{FE}	30 100 50	300		$I_C = -100\mu\text{A}, V_{CE} = -5\text{V}$ $I_C = -100\text{mA}, V_{CE} = -5\text{V}$ $I_C = -500\text{mA}, V_{CE} = -5\text{V}$
Collector Capacitance	C_c		20	pF	$V_{CB} = -10\text{V}, f = 1\text{MHz}$
Emitter Capacitance	C_e		120	pF	$V_{EB} = -0.5\text{V}, f = 1\text{MHz}$
Transition Frequency	f_T	100		MHz	$I_C = -50\text{mA}, V_{CE} = -10\text{V}$ $f = 35\text{MHz}$
Turn-On Time	T_{on}		500	ns	$V_{CC} = -20\text{V}, I_C = -100\text{mA}$
Turn-Off Time	T_{off}		650	ns	$I_{B1} = -I_{B2} = -5\text{mA}$

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$
Spice parameter data is available upon request for this device