

# SOT223 NPN SILICON PLANAR HIGH VOLTAGE TRANSISTOR

## BSP20

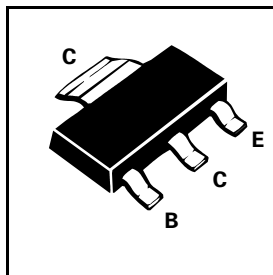
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### FEATURES

- \* High  $V_{CE0}$
- \* Low saturation voltage

COMPLEMENTARY TYPE – BSP15

PARTMARKING DETAIL – BSP20



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	300	V
Collector-Emitter Voltage	$V_{CEO}$	250	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Peak Pulse Current	$I_{CM}$	1	A
Continuous Collector Current	$I_C$	0.5	A
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.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	300			V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	250			V	$I_C=10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_E=100\mu A$
Collector Cut-Off Current	$I_{CBO}$			20	nA	$V_{CB}=300V$
Emitter Cut-Off Current	$I_{EBO}$			50	nA	$V_{EB}=5V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5	V	$I_C=50mA, I_B=4mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1.3	V	$I_C=50mA, I_B=4mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$			2.0	V	$I_C=100mA, V_{CE}=10V^*$
Static Forward Current Transfer Ratio	$h_{FE}$	40 30		200		$I_C=20mA, V_{CE}=10V^*$ $I_C=30mA, V_{CE}=10V^*$
Transition Frequency	$f_T$	40		200	MHz	$I_C=10mA, V_{CE}=20V$ $f = 20MHz$
Output Capacitance	$C_{obo}$			6	pF	$V_{CB}=20V, f=1MHz$

\*Measured under pulsed conditions. Pulse width=300 $\mu s$ . Duty cycle  $\leq 2\%$   
For typical characteristics graphs see FMMTA42 datasheet.