

# SOT223 PNP SILICON PLANAR MEDIUM POWER TRANSISTOR

## BCP51

ISSUE 3 – AUGUST 1995

### FEATURES

- \* Suitable for AF drivers and output stages
- \* High collector current and Low  $V_{CE(sat)}$

COMPLEMENTARY TYPE – BCP54

PARTMARKING DETAILS – BCP51  
BCP51 – 10  
BCP51 – 16



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-45	V
Collector-Emitter Voltage	$V_{CEO}$	-45	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Peak Pulse Current	$I_{CM}$	-1.5	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.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-45			V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-45			V	$I_C = -10\text{mA}$ *
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E = -10\mu\text{A}$
Collector Cut-Off Current	$I_{CBO}$			-100 -10	nA $\mu\text{A}$	$V_{CB} = -30\text{V}$ $V_{CB} = -30\text{V}$ , $T_{amb} = 150^\circ\text{C}$
Emitter Cut-Off Current	$I_{EBO}$			-10	$\mu\text{A}$	$V_{EB} = -5\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.5	V	$I_C = -500\text{mA}$ , $I_B = -50\text{mA}$ *
Base-Emitter Turn-On Voltage	$V_{BE(on)}$			-1.0	V	$I_C = -500\text{mA}$ , $V_{CE} = -2\text{V}$ *
Static Forward Current Transfer Ratio	$h_{FE}$	40 25 63 100	100 160	250 160 250		$I_C = -150\text{mA}$ , $V_{CE} = -2\text{V}$ * $I_C = -500\text{mA}$ , $V_{CE} = -2\text{V}$ * $I_C = -150\text{mA}$ , $V_{CE} = -2\text{V}$ * $I_C = -150\text{mA}$ , $V_{CE} = -2\text{V}$ *
Transition Frequency	$f_T$		125		MHz	$I_C = -50\text{mA}$ , $V_{CE} = -10\text{V}$ , $f = 100\text{MHz}$

\*Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$