

SOT223 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

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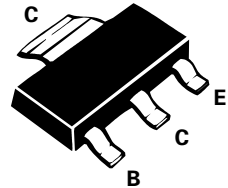
BCP54

FEATURES

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

COMPLEMENTARY TYPE – BCP51

PARTMARKING DETAILS – BCP54
BCP54 – 10
BCP54 – 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 20	nA μA	$V_{CB}=30\text{V}$ $V_{CB}=30\text{V}$, $T_{amb}=150^\circ\text{C}$
Emitter Cut-Off Current	I_{EBO}			10	μA	$V_{EB}=5\text{V}$
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		$I_C=150\text{mA}$, $V_{CE}=2\text{V}$ * $I_C=500\text{mA}$, $V_{CE}=2\text{V}$ * $I_C=150\text{mA}$, $V_{CE}=2\text{V}$ * $I_C=150\text{mA}$, $V_{CE}=2\text{V}$ *
Transition Frequency	f_T		100		MHz	$I_C=50\text{mA}$, $V_{CE}=10\text{V}$, $f=100\text{MHz}$

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$