

SOT223 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

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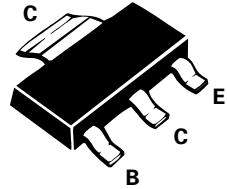
FEATURES

- * 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

BCP54



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 $T_{amb}=25^{\circ}C$	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	$V_{(BR)CBO}$	45			V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	45			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 20	nA μA	$V_{CB}=30V$ $V_{CB}=30V, T_{amb}=150^{\circ}C$
Emitter Cut-Off Current	I_{EBO}			10	μA	$V_{EB}=5V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5	V	$I_C=500mA, I_B=50mA$ *
Base-Emitter Turn-On Voltage	$V_{BE(on)}$			1.0	V	$I_C=500mA, V_{CE}=2V$ *
Static Forward Current Transfer Ratio	h_{FE}	40 25 63 100		250		$I_C=150mA, V_{CE}=2V$ * $I_C=500mA, V_{CE}=2V$ * $I_C=150mA, V_{CE}=2V$ * $I_C=150mA, V_{CE}=2V$ *
Transition Frequency	f_T		100		MHz	$I_C=50mA, V_{CE}=10V,$ $f=100MHz$

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