

# SOT89 PNP SILICON PLANAR MEDIUM POWER TRANSISTORS

**BCX51  
BCX52  
BCX53**

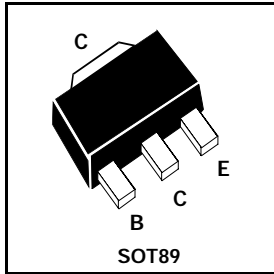
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COMPLEMENTARY TYPE – BCX51 – BCX54  
BCX52 – BCX55  
BCX53 – BCX56

PARTMARKING DETAILS –

BCX51 – AA    BCX52 – AE    BCX53 – AH  
BCX51-10 – AC    BCX52-10 – AG    BCX53-10 – AK  
BCX51-16 – AD    BCX52-16 – AM    BCX53-16 – AL



## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	BCX51	BCX52	BCX53	UNIT
Collector-Base Voltage	$V_{CBO}$	-45	-60	-100	V
Collector-Emitter Voltage	$V_{CEO}$	-45	-60	-80	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 $T_{amb}=25^\circ\text{C}$	$P_{tot}$		1		W
Operating and Storage Temperature Range	$T_j; T_{stg}$		-65 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	$V_{(BR)CBO}$	-100 -60 -45			V V V	$I_C = -100\mu\text{A}$ $I_C = -100\mu\text{A}$ $I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-80 -60 -45			V	$I_C = -10\text{mA}^*$ $I_C = -10\text{mA}^*$ $I_C = -10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E = -10\mu\text{A}$
Collector Cut-Off Current	$I_{CBO}$			-0.1 -20	$\mu\text{A}$ $\mu\text{A}$	$V_{CB} = -30\text{V}$ $V_{CB} = -30\text{V}, T_{amb} = 150^\circ\text{C}$
Emitter Cut-Off Current	$I_{EBO}$			-20	nA	$V_{EB} = -4\text{V}$
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	$h_{FE}$	25 40 25 63 100		250 160 250		$I_C = -5\text{mA}, V_{CE} = -2\text{V}^*$ $I_C = -150\text{mA}, V_{CE} = -2\text{V}^*$ $I_C = -500\text{mA}, V_{CE} = -2\text{V}^*$ $I_C = -150\text{mA}, V_{CE} = -2\text{V}^*$ $I_C = -150\text{mA}, V_{CE} = -2\text{V}^*$
Transition Frequency	$f_T$	150			MHz	$I_C = -50\text{mA}, V_{CE} = -10\text{V}, f = 100\text{MHz}$
Output Capacitance	$C_{obo}$			25	pF	$V_{CB} = -10\text{V}, f = 1\text{MHz}$

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



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