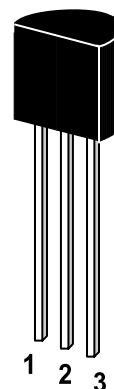


ST BC546 ... BC549

NPN Silicon Epitaxial Planar Transistor

These transistors are subdivided into three groups A, B and C according to their current gain. The type BC546 is available in groups A and B, however, the types BC547 and BC548 can be supplied in all three groups. The BC549 is low-noise type and available in groups B and C. As complementary types, the PNP transistors BC556...BC559 are recommended.

On special request, these transistors can be manufactured in different pin configurations.



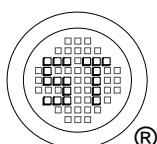
1. Collector 2. Base 3. Emitter

TO-92 Plastic Package
Weight approx. 0.19g

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

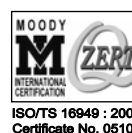
		Symbol	Value	Unit
Collector Base Voltage	ST BC546	V_{CBO}	80	V
	ST BC547	V_{CBO}	50	V
	ST BC548, ST BC549	V_{CBO}	30	V
Collector Emitter Voltage	ST BC546	V_{CES}	85	V
	ST BC547	V_{CES}	50	V
	ST BC548, ST BC549	V_{CES}	30	V
Collector Emitter Voltage	ST BC546	V_{CEO}	65	V
	ST BC547	V_{CEO}	45	V
	ST BC548, ST BC549	V_{CEO}	30	V
Emitter Base Voltage	ST BC546, ST BC547	V_{EBO}	6	V
	ST BC548, ST BC549	V_{EBO}	5	V
Collector Current		I_C	100	mA
Peak Collector Current		I_{CM}	200	mA
Peak Base Current		I_{BM}	200	mA
Peak Emitter Current		$-I_{EM}$	200	mA
Power Dissipation		P_{tot}	500 ¹⁾	mW
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_s	-65 to +150	$^\circ\text{C}$

¹⁾ Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case



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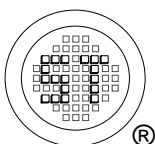
ST BC546 ... BC549

Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

			Symbol	Min.	Typ.	Max.	Unit
DC Current Gain.							
at V _{CE} =5V, I _C =10μA	Current Gain Group A	B	h _{FE}	-	90	-	-
		B	h _{FE}	-	150	-	-
		C	h _{FE}	-	270	-	-
at V _{CE} =5V, I _C =2mA	Current Gain Group A	A	h _{FE}	110	180	220	-
		B	h _{FE}	200	290	450	-
		C	h _{FE}	420	500	800	-
at V _{CE} =5V, I _C =100mA	Current Gain Group A	A	h _{FE}	-	120	-	-
		B	h _{FE}	-	200	-	-
		C	h _{FE}	-	400	-	-
Collector Saturation Voltage							
at I _C =10mA, I _B =0.5mA			V _{CEsat}	-	80	200	mV
at I _C =100mA, I _B =5mA			V _{CEsat}	-	200	600	mV
Base Saturation Voltage							
at I _C =10mA, I _B =0.5mA			V _{BEsat}	-	700	-	mV
at I _C =100mA, I _B =5mA			V _{BEsat}	-	900	-	mV
Base Emitter Voltage							
at V _{CE} =5V, I _C =2mA			V _{BE}	580	660	700	mV
at V _{CE} =5V, I _C =10mA			V _{BE}	-	-	720	mV
Collector Emitter Cutoff Current							
at V _{CE} =80V	ST BC546	I _{CES}	-	0.2	15	nA	
at V _{CE} =50V	ST BC547	I _{CES}	-	0.2	15	nA	
at V _{CE} =30V	ST BC548, ST BC549	I _{CES}	-	0.2	15	nA	
at V _{CE} =80V, T _j =125 °C	ST BC546	I _{CES}	-	-	4	μA	
at V _{CE} =50V, T _j =125 °C	ST BC547	I _{CES}	-	-	4	μA	
Thermal Resistance Junction to Ambient Air			R _{thA}	-	-	250 ¹⁾	K/W
1) Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case							

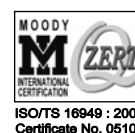
¹⁾ Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case

E



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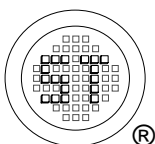


Dated : 15/09/2004

ST BC546 ... BC549

Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
at $V_{CE}=30\text{V}$, $T_j=125\text{ }^{\circ}\text{C}$ ST BC548, ST BC549	I_{CES}	-	-	4 4	μA μA
Gain Bandwidth Product at $V_{CE}=5\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$	f_T	-	300	-	MHz
Collector Base Capacitance at $V_{CB}=10\text{V}$, $f=1\text{MHz}$	C_{CBO}	-	3.5	6	pF
Emitter Base Capacitance at $V_{EB}=0.5\text{V}$, $f=1\text{MHz}$	C_{EBO}	-	9	-	pF
Noise Figure at $V_{CE}=5\text{V}$, $I_C=200\mu\text{A}$, $R_G=2\text{k}\Omega$, $f=1\text{kHz}$, $\Delta f=200\text{Hz}$					
ST BC546, ST BC547	F	-	2	10	dB
ST BC548, STBC549	F	-	1.2	4	dB



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ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001:2004
Certificate No. 7116



ISO 9001:2000
Certificate No. 0506098

Dated : 15/09/2004