

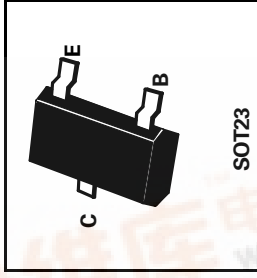
SOT23 NPN SILICON PLANAR GENERAL PURPOSE TRANSISTORS

ISSUE 6 - JANUARY 1997

BC846
BC848
BC850

BC847
BC849
BC850

PARTMARKING DETAILS		COMPLEMENTARY TYPES
BC846A-Z1A	BC848B-1K	BC846
BC846B-1B	BC848C-Z1L	BC847
BC847A-Z1E	BC849B-2B	BC848
BC847B-1F	BC849C-2C	BC849
BC847C-1GZ	BC850B-2FZ	BC850
BC848A-1JZ	BC850C-Z2G	BC860



查询BC847A-Z1E供应商

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	BC846	BC847	BC848	BC849	BC850	UNIT
Collector-Base Voltage	V_{CB0}	80	50	30	30	50	V
Collector-Emitter Voltage	V_{CES}	80	50	30	30	50	V
Collector-Emitter Voltage	V_{CEO}	65	45	30	30	45	V
Emitter-Base Voltage	V_{EBO}	6					V
Continuous 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 at $T_{amb}=25^{\circ}C$	P_{tot}	330					mW
Operating and Storage Temperature Range	T_j, T_{stg}	-55 to +150					$^{\circ}C$

捷多邦, 专业PCB打样工厂, 24小时加急出货

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

PARAMETER	SYMBOL	BC846	BC847	BC848	BC849	BC850	UNIT	CONDITIONS.
Collector Cut-Off Current	I_{CB0}	Max	15				nA	$V_{CB} = 30V$
		Max	5				μA	$V_{CB} = 30V$ $T_{amb} = 150^{\circ}C$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	Typ	90				mV	$I_C = 10mA$, $I_B = 0.5mA$
		Max.	250				mV	
	$V_{BE(sat)}$	Typ	200				mV	$I_C = 100mA$, $I_B = 5mA$
		Max.	600				mV	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	Typ	300				mV	$I_C = 10mA^*$
		Max.	600				mV	
	$V_{BE(sat)}$	Typ	700				mV	$I_C = 10mA$, $I_B = 0.5mA$
		Typ	900				mV	$I_C = 100mA$, $I_B = 5mA$
Base-Emitter Voltage	V_{BE}	Min	580				mV	$I_C = 2mA$
		Typ	660				mV	$V_{CE} = 5V$
		Max	700				mV	
		Max	770				mV	$I_C = 10mA$, $V_{CE} = 5V$

* Collector-Emitter Saturation Voltage at $I_C = 10mA$ for the characteristics going through the operating point $I_C = 11mA$, $V_{CE} = 1V$ at constant base current.



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ELECTRICAL CHARACTERISTICS (Continued)

PARAMETER	SYMBOL	BC846	BC847	BC848	BC849	BC850	UNIT	CONDITIONS.
Dynamic Characteristics	h_{ie}	Min	0.4	0.4	-	-	k Ω	$V_{CE}=5V$ $I_C=2mA$
		Typ	1.2	1.2	-	-	k Ω	
		Max	2.2	2.2	-	-	k Ω	
Group A	h_{ie}	Min	1.6	1.6	-	-	k Ω	$V_{CE}=5V$ $I_C=2mA$
		Typ	2.7	2.7	-	-	k Ω	
		Max	4.5	4.5	-	-	k Ω	
Group B	h_{ie}	Min	3.2	3.2	-	-	k Ω	$V_{CE}=5V$ $I_C=2mA$
		Typ	4.5	4.5	-	-	k Ω	
		Max	8.5	8.5	-	-	k Ω	
Group C	h_{ie}	Min	6	6	6	6	k Ω	$V_{CE}=5V$ $I_C=2mA$
		Typ	8.7	8.7	8.7	8.7	k Ω	
		Max	15	15	15	15	k Ω	
Group VI	h_{re}	Typ	2.5	2.5	-	-	$\times 10^{-4}$	$V_{CE}=5V$ $I_C=2mA$
		Typ	1.5	1.5	-	-	$\times 10^{-4}$	
		Typ	2	2	2	2	$\times 10^{-4}$	
		Typ	3	3	3	3	$\times 10^{-4}$	
Group VI	h_{fe}	Min	75	75	-	-	-	$V_{CE}=5V$ $I_C=2mA$
		Typ	110	110	-	-	-	
		Max	150	150	-	-	-	
Group A	h_{fe}	Min	125	125	-	-	-	$V_{CE}=5V$ $I_C=2mA$
		Typ	220	220	-	-	-	
		Max	260	260	-	-	-	
Group B	h_{fe}	Min	240	240	-	-	-	$V_{CE}=5V$ $I_C=2mA$
		Typ	330	330	-	-	-	
		Max	500	500	-	-	-	
Group C	h_{fe}	Min	450	450	450	450	-	$V_{CE}=5V$ $I_C=2mA$
		Typ	600	600	600	600	-	
		Max	900	900	900	900	-	
Group VI	h_{oe}	Typ	20	20	-	-	μS	$V_{CE}=5V$ $I_C=2mA$
		Max	40	40	-	-	μS	
		Typ	18	18	-	-	μS	
Group A	h_{oe}	Typ	30	30	-	-	μS	$V_{CE}=5V$ $I_C=2mA$
		Max	60	60	-	-	μS	
		Typ	30	30	-	-	μS	
Group B	h_{oe}	Typ	60	60	60	60	μS	$V_{CE}=5V$ $I_C=2mA$
		Max	110	110	110	110	μS	
		Typ	60	60	60	60	μS	
Group C	h_{oe}	Typ	110	110	110	110	μS	$V_{CE}=5V$ $I_C=2mA$
		Max	260	260	260	260	μS	
		Typ	110	110	110	110	μS	

ELECTRICAL CHARACTERISTICS (Continued)

PARAMETER	SYMBOL	BC846	BC847	BC848	BC849	BC850	UNIT	CONDITIONS.
Static Forward Current Ratio	h_{FE}	Min	75	75	-	-	-	$I_C=2mA, V_{CE}=5V$
		Typ	110	110	-	-	-	
		Max	150	150	-	-	-	
Group A	h_{FE}	Typ	90	90	-	-	-	$I_C=0.01mA, V_{CE}=5V$
		Min	110	110	-	-	-	
		Typ	180	180	-	-	-	
Group B	h_{FE}	Min	120	120	-	-	-	$I_C=100mA, V_{CE}=5V$
		Typ	150	150	-	-	-	
		Max	200	200	-	-	-	
Group C	h_{FE}	Min	200	200	200	200	-	$I_C=100mA, V_{CE}=5V$
		Typ	270	270	270	270	-	
		Max	420	420	420	420	-	
Transition Frequency	f_T	Min	420	420	420	420	MHz	$I_C=10mA, V_{CE}=5V$ $f=100MHz$
		Typ	500	500	500	500	-	
		Max	800	800	800	800	-	
Collector-Base Capacitance	C_{obo}	Typ	2.5	2.5	-	-	pF	$V_{CE}=10V, f=1MHz$
		Max	4.5	4.5	-	-	pF	
		Typ	9	9	-	-	pF	
Emitter-Base Capacitance	C_{ibo}	Typ	2	2	2	2	pF	$V_{CE}=5V, I_C=200\mu A$ $R_G=2k\Omega, f=1kHz, \Delta I=200Hz$
		Max	10	10	10	10	pF	
		Typ	1.2	1.2	1.2	1.2	pF	
Noise Figure	N	Typ	-	-	-	-	dB	$V_{CE}=5V, I_C=200\mu A$ $R_G=2k\Omega, f=30Hz$ to 15kHz at -3dB points
		Max	-	-	-	-	dB	
		Typ	-	-	-	-	dB	
Equivalent Noise Voltage	e_n	Max.	-	-	-	-	nV	$V_{CE}=5V, I_C=200\mu A$ $R_G=2k\Omega, f=10Hz$ to 50Hz at -3dB points
		Typ	-	-	-	-	nV	
		Max	-	-	-	-	nV	

Spice parameter data is available upon request for this device

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ELECTRICAL CHARACTERISTICS (Continued)

PARAMETER	SYMBOL	BC846	BC847	BC848	BC849	BC850	UNIT	CONDITIONS.
Dynamic Characteristics	h_{ie}	Min	0.4	0.4	-	-	k Ω	$V_{CE}=5V$ $I_C=2mA$
		Typ	1.2	1.2	-	-	k Ω	
		Max	2.2	2.2	-	-	k Ω	
Group A	h_{ie}	Min	1.6	1.6	-	-	k Ω	
		Typ	2.7	2.7	-	-	k Ω	
		Max	4.5	4.5	-	-	k Ω	
Group B	h_{ie}	Min	3.2	3.2	-	-	k Ω	
		Typ	4.5	4.5	-	-	k Ω	
		Max	8.5	8.5	-	-	k Ω	
Group C	h_{ie}	Min	6	6	6	6	k Ω	
		Typ	8.7	8.7	8.7	8.7	k Ω	
		Max	15	15	15	15	k Ω	
Group VI	h_{re}	Typ	2.5	2.5	-	-	$\times 10^{-4}$	
		Typ	1.5	1.5	-	-	$\times 10^{-4}$	
		Typ	2	2	2	2	$\times 10^{-4}$	
		Typ	2	3	3	3	$\times 10^{-4}$	
Group VI	h_{fe}	Min	75	75	-	-	-	
		Typ	110	110	-	-	-	
		Max	150	150	-	-	-	
Group A	h_{fe}	Min	125	125	-	-	-	
		Typ	220	220	-	-	-	
		Max	260	260	-	-	-	
Group B	h_{fe}	Min	240	240	-	-	-	
		Typ	330	330	-	-	-	
		Max	500	500	-	-	-	
Group C	h_{fe}	Min	450	450	450	450	-	
		Typ	600	600	600	600	-	
		Max	900	900	900	900	-	
Group VI	h_{oe}	Typ	20	20	-	-	μS	
		Max	40	40	-	-	μS	
		Typ	18	18	-	-	μS	
Group A	h_{oe}	Typ	30	30	-	-	μS	
		Max	60	60	-	-	μS	
		Typ	30	30	-	-	μS	
Group B	h_{oe}	Typ	60	60	60	60	μS	
		Max	110	110	110	110	μS	
		Typ	60	60	60	60	μS	
Group C	h_{oe}	Typ	110	110	110	110	μS	
		Max	200	200	200	200	μS	
		Typ	110	110	110	110	μS	

ELECTRICAL CHARACTERISTICS (Continued)

PARAMETER	SYMBOL	BC846	BC847	BC848	BC849	BC850	UNIT	CONDITIONS.
Static Forward Current Ratio	h_{FE}	Min	75	75	-	-	-	$I_C=2mA, V_{CE}=5V$
		Typ	110	110	-	-	-	
		Max	150	150	-	-	-	
Group A	h_{FE}	Typ	90	90	-	-	-	
		Min	110	110	-	-	-	
		Typ	180	180	-	-	-	
Group B	h_{FE}	Min	120	120	-	-	-	
		Typ	220	220	-	-	-	
		Typ	150	150	-	-	-	
Group C	h_{FE}	Min	200	200	-	-	-	
		Typ	270	270	270	270	270	
		Max	420	420	420	420	420	
Transition Frequency	f_T	Min	420	420	420	420	MHz	
		Typ	500	500	500	500	MHz	
		Max	800	800	800	800	MHz	
Collector-Base Capacitance	C_{obo}	Typ	2	2	2	2	pF	
		Max	10	10	10	10	pF	
		Typ	9	9	9	9	pF	
Emitter-Base Capacitance	C_{ibo}	Typ	2	2	2	2	pF	
		Max	10	10	10	10	pF	
		Typ	9	9	9	9	pF	
Noise Figure	N	Typ	2	2	2	2	dB	
		Max	10	10	10	10	dB	
		Typ	9	9	9	9	dB	
Equivalent Noise Voltage	e_n	Typ	1.2	1.2	1.2	1.2	nV	
		Max	4	4	4	4	nV	
		Typ	110	110	110	110	nV	

Spice parameter data is available upon request for this device