RECTRON
RECTIFIER SPECIALISTS

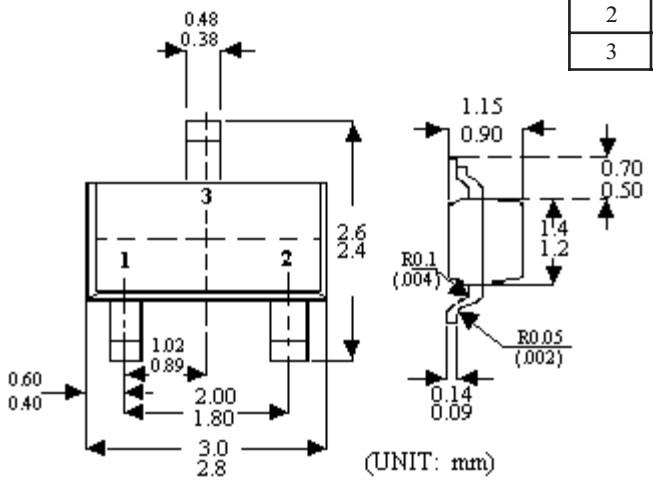
TECHNICAL SPECIFICATION

BC846
A - B

Silicon Planar Epitaxial NPN Transistor

Dimensions SOT-23

1	BASE
2	EMITTER
3	COLLECTOR



Absolute Maximun Ratings (Ta=25°C)

(at Ta = 25°C unless otherwise specified)

	Symbol	-	Ratings	Unit
Collector-Base Voltage (open emitter)	V_{CBO}	max	80	V
Collector-Emmiter Voltage (V_{BE} = 0)	V_{CES}	max	80	V
Collector-Emmitor Voltage (open base)	V_{CEO}	max	65	V
Emitter Base Voltage	V_{EBO}	-	6	V
Collector current (d.c.)	I_C	max	100	mA
Collector current - Peak	I_{CM}	max	200	V
Base Current - Peak	I_{BM}	-	200	mA
Emitter Current - Peak	$-I_{E\,M}$	-	200	mA
Total Power Dissapation Ta = 25 °C	P_{tot}	-	250	mW
Storage Temperature	T_j T_{stg}	-	-55 to +150	°C
Junction Temperature		max	150	°C

THERMAL RESISTANCE				
Junction to ambient	$R_{th(j-a)}$	-	500	K / W

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Characteristics

Tj = 25°C unless otherwise specified

	Symbol	Test Conditions		Ratings	Unit
Collector Cut off Current	I_{CBO}	I_E = 0, V_{CB} = 30V I_E = 0, V_{CB} = 30V, T_J = 150°C	< <	15 5	nA µA
Base Emitter on Voltage	V_{BE}	I_C = 2mA, V_{CE} = 5V . I_C = 10mA, V_{CE} = 5V	typ typ <	660 580 to 700 770	mV mV mV
Saturation Voltage	$V_{CE\ (SAT)}$ - $V_{BE\ (SAT)}$	I_C = 10mA, I_B = 0.5mA	typ < typ	90 250 700	mV mV mV
Saturation Voltage	$V_{CE\ (SAT)}$ - $V_{BE\ (SAT)}$	I_C = 100mA, I_B = 5mA	typ < typ	200 600 900	mV mV mV
Collector Capacitance	C_C	I_E = Ie = 0, V_{CB} = 10V, f = 1MHz	typ	2.5	pF
Transition Frequency	f_T	I_C = 10mA, V_{CE} = 5V, f =100MHz	>	100	MHz
Noise Figure	F	I_C =200µA, V_{CE} = 5V, R_S =2kΩ, f = 1kHz, B = 200Hz	typ <	2 10	dB dB
DC Current Gain BC846	h_{FE}	I_C = 10µA, V_{CE} = 5V I_C = 2mA, V_{CE} = 5V " "	 > <	x 110 450	
DC Current Gain BC846A	h_{FE}	I_C = 10µA, V_{CE} = 5V I_C = 2mA, V_{CE} = 5V " " " "	typ > typ <	90 110 180 220	
DC Current Gain BC846B	h_{FE}	I_C = 10µA, V_{CE} = 5V I_C = 2mA, V_{CE} = 5V " " " "	typ > typ <	150 200 290 450	
Small Signal Current Gain	h_{fe}	I_C = 2mA, V_{CE} = 5V, f =1kHz	> <	125 900	

Thermal Characteristics

Thermal Resistance					
From junction to ambient	Rth j-a		=	500	K/W