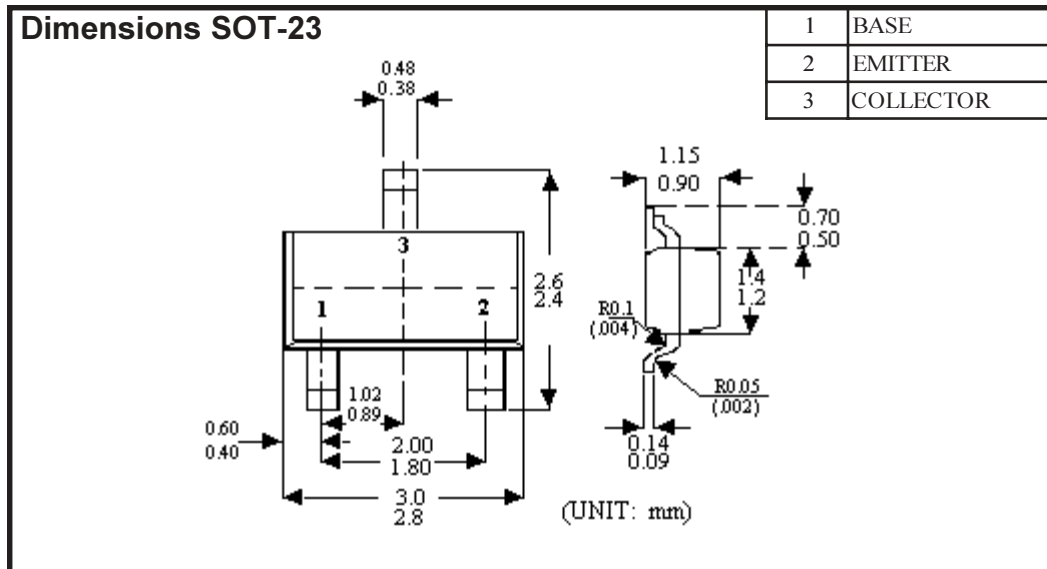


**Silicon Planar Epitaxial NPN Transistor**



**Absolute Maximum 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-Emmitter Voltage ( $V_{BE} = 0$ )	$V_{CES}$	max	80	V
Collector-Emmitter 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	$-I_{EM}$	-	200	mA
Total Power Dissipation Ta = 25 °C	$P_{tot}$	-	250	mW
Storage Temperature	$T_j$ $T_{stg}$	-	-55 to +150	°C
Junction Temperature		max	150	°C

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

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## Characteristics

T<sub>j</sub> = 25°C unless otherwise specified

	Symbol	Test Conditions		Ratings	Unit
Collector Cut off Current	I <sub>CBO</sub>	I <sub>E</sub> = 0, V <sub>CB</sub> = 30V	<	15	nA
		I <sub>E</sub> = 0, V <sub>CB</sub> = 30V, T <sub>J</sub> = 150°C	<	5	μA
Base Emitter on Voltage	V <sub>BE</sub>	I <sub>C</sub> = 2mA, V <sub>CE</sub> = 5V	typ	660	mV
		.	typ	580 to 700	mV
		I <sub>C</sub> = 10mA, V <sub>CE</sub> = 5V	<	770	mV
Saturation Voltage	V <sub>CE (SAT)</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> = 0.5mA	typ	90	mV
	.		<	250	mV
	V <sub>BE (SAT)</sub>		typ	700	mV
Saturation Voltage	V <sub>CE (SAT)</sub>	I <sub>C</sub> = 100mA, I <sub>B</sub> = 5mA	typ	200	mV
	.		<	600	mV
	V <sub>BE (SAT)</sub>		typ	900	mV
Collector Capacitance	C <sub>C</sub>	I <sub>E</sub> = I <sub>E</sub> = 0, V <sub>CB</sub> = 10V, f = 1MHz	typ	2.5	pF
Transition Frequency	f <sub>T</sub>	I <sub>C</sub> = 10mA, V <sub>CE</sub> = 5V, f = 100MHz	>	100	MHz
Noise Figure	F	I <sub>C</sub> = 200μA, V <sub>CE</sub> = 5V, R <sub>S</sub> = 2kΩ, f = 1kHz, B = 200Hz	typ	2	dB
			<	10	dB
DC Current Gain BC846	h <sub>FE</sub>	I <sub>C</sub> = 10μA, V <sub>CE</sub> = 5V		x	
		I <sub>C</sub> = 2mA, V <sub>CE</sub> = 5V	>	110	
		" "	<	450	
DC Current Gain BC846A	h <sub>FE</sub>	I <sub>C</sub> = 10μA, V <sub>CE</sub> = 5V	typ	90	
		I <sub>C</sub> = 2mA, V <sub>CE</sub> = 5V	>	110	
		" "	typ	180	
		" "	<	220	
DC Current Gain BC846B	h <sub>FE</sub>	I <sub>C</sub> = 10μA, V <sub>CE</sub> = 5V	typ	150	
		I <sub>C</sub> = 2mA, V <sub>CE</sub> = 5V	>	200	
		" "	typ	290	
		" "	<	450	
Small Signal Current Gain	h <sub>fe</sub>	I <sub>C</sub> = 2mA, V <sub>CE</sub> = 5V, f = 1kHz	>	125	
			<	900	

## Thermal Characteristics

Thermal Resistance					
From junction to ambient	R <sub>th j-a</sub>		=	500	K/W

