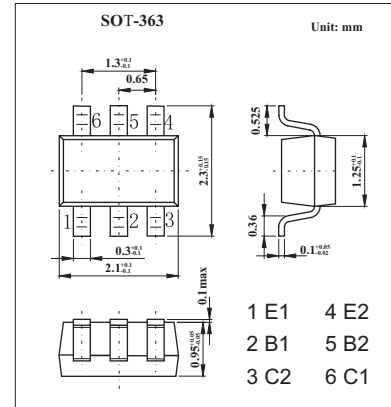
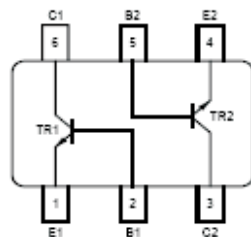


**KC846S(BC846S)**

■ Features

- For AF input stage and driver applications
- High current gain.
- Low collector-emitter saturation voltage.



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V <sub>CB0</sub>	80	V
Collector-emitter voltage	V <sub>CE0</sub>	65	V
Emitter-base voltage	V <sub>EB0</sub>	6	V
Collector current (DC)	I <sub>c</sub>	100	mA
Peak collector current	I <sub>CM</sub>	200	mA
power dissipation	P <sub>D</sub>	250	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-65 to +150	°C

## KC846S(BC846S)

### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>CB0</sub>	I <sub>C</sub> = 10 μA, I <sub>E</sub> = 0	80			V
Collector-emitter breakdown voltage	V <sub>CEO</sub>	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0	65			V
Emitter-base breakdown voltage	V <sub>EBO</sub>	I <sub>E</sub> = 10 μA, I <sub>C</sub> = 0	6			V
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> = 30 V, I <sub>E</sub> = 0			15	nA
		V <sub>CB</sub> = 30 V, I <sub>E</sub> = 0, T <sub>A</sub> = 150 °C			5	μA
DC current gain *	h <sub>FE</sub>	I <sub>C</sub> = 10 μA, V <sub>CE</sub> = 5 V		250		
		I <sub>C</sub> = 2 mA, V <sub>CE</sub> = 5 V	200	290	450	
Collector-emitter saturation voltage*	V <sub>CE(sat)</sub>	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0.5 mA		90	250	mV
		I <sub>C</sub> = 100 mA, I <sub>B</sub> = 5 mA		200	650	
Base-emitter saturation voltage*	V <sub>BE(sat)</sub>	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0.5 mA		700		mV
		I <sub>C</sub> = 100 mA, I <sub>B</sub> = 5 mA		900		
Base-emitter voltage*	V <sub>BE(ON)</sub>	I <sub>C</sub> = 2 mA, V <sub>CE</sub> = 5 V	580	660	700	mV
		I <sub>C</sub> = 10 mA, V <sub>CE</sub> = 5 V			770	
Collector-base capacitance	C <sub>cb</sub>	V <sub>CB</sub> = 10 V, f = 1 MHz		2		pF
Emitter-base capacitance	C <sub>eb</sub>	V <sub>EB</sub> = 0.5 V, f = 1 MHz		10		pF
Noise figure	F	I <sub>C</sub> = 200 μA, V <sub>CE</sub> = 5 V, R <sub>S</sub> = 2 kΩ, f = 1 kHz, Δf = 200 Hz			10	dB
Transition frequency	f <sub>T</sub>	I <sub>C</sub> = 20 mA, V <sub>CE</sub> = 5 V, f = 100 MHz		250		MHz

\* Pulse test: t < 300 μs; D < 2%

### ■ Marking

Marking	1D
---------	----