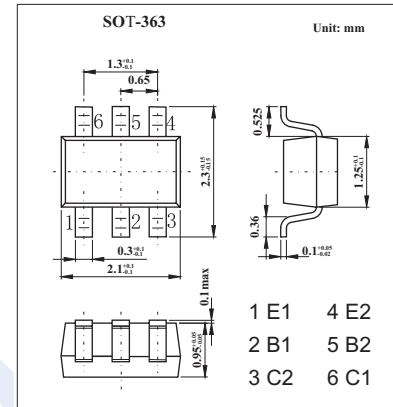


## NPN Multi-Chip General Purpose Amplifier

### KC847S(BC847S)

#### ■ Features

- High current gain
- Low collector-emitter saturation voltage



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CB0}$	50	V
Collector-Emitter Voltage	$V_{CEO}$	45	V
Emitter-Base Voltage	$V_{EBO}$	6.0	V
Collector Current	$I_C$	100	mA
Total Device Dissipation	$P_D$	300	mW
Derate above $25^\circ\text{C}$		2.4	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	415	$^\circ\text{C}/\text{W}$
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{CB0}$	$I_C = 10 \mu\text{A}, I_E = 0$	50			V
Collector-Emitter Breakdown Voltage	$V_{CEO}$	$I_C = 10 \text{mA}, I_B = 0$	45			V
Emitter-Base Breakdown Voltage	$V_{EBO}$	$I_E = 10 \mu\text{A}, I_C = 0$	6.0			V
Collector-Cutoff Current	$I_{CB0}$	$V_{CB} = 30 \text{V}, I_E = 0$			15	nA
		$V_{CB} = 30 \text{V}, I_E = 0, T_A = 150^\circ\text{C}$			5.0	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$I_C = 2.0 \text{mA}, V_{CE} = 5.0 \text{V}$	110		630	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10 \text{mA}, I_B = 0.5 \text{mA}$			0.25	V
		$I_C = 100 \text{mA}, I_B = 5.0 \text{mA}$			0.65	V
Base-Emitter ON Voltage	$V_{BE(on)}$	$I_C = 2.0 \text{mA}, V_{CE} = 5.0 \text{V}$	0.58		0.7	V
		$I_C = 10 \text{mA}, V_{CE} = 5.0 \text{V}$			0.77	V
Output Capacitance	$C_{ob}$	$V_{CB} = 10 \text{V}, f = 1.0 \text{MHz}$		2.0		pF
Transistion frequency	$f_T$	$I_C = 20 \text{mA}, V_{CE} = 5.0, f = 100 \text{mHz}$		200		MHz

#### ■ Marking

Marking	1C
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