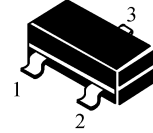


KEL[®]

BC846A,B BC847A,B,C BC848A,B,C

SOT-23

1. BASE
2. EMITTER
3. COLLECTOR



■ MAXIMUM RATINGS 最大額定值

Characteristic 特性參數	Symbol 符號	BC846A,B	BC847A,B,C	BC848A,B,C	Unit 單位
Collector-Emitter Voltage 集電極發射極電壓	V_{CEO}	65	45	30	Vdc
Collector-Base Voltage 集電極基極電壓	V_{CBO}	80	50	30	Vdc
Emitter-Base Voltage 發射極基極電壓	V_{EBO}	6.0	6.0	5.0	Vdc
Collector Current Continuous 集電極電流	I_c	100	100	100	mAdc

■ THERMAL CHARACTERISTICS 熱特性

Characteristic 特性參數	Symbol 符號	Max 最大值	Unit 單位
Total Device Dissipation 總耗散功率 FR-5 Board(1) $T_A=25^{\circ}\text{C}$ 溫度為 25°C Derate above 25°C 超過 25°C 遞減	P_D	225 1.8	mW mW/ $^{\circ}\text{C}$
Total Device Dissipation 總耗散功率 Alumina Substrate 氧化鋁襯底,(2) $T_A=25^{\circ}\text{C}$ Derate above 25°C 超過 25°C 遞減	P_D	300 2.4	mW mW/ $^{\circ}\text{C}$
Thermal Resistance Junction to Ambient 熱阻	$R_{\theta JA}$	417	$^{\circ}\text{C}/\text{W}$
Junction and Storage Temperature 結溫和儲存溫度	T_J, T_{stg}	-55to+150 $^{\circ}\text{C}$	

■ DEVICE MARKING 打標

BC846A=1A; BC846B=1B; BC847A=1E; BC847B=1F;
BC847C=1G; BC848A=1J; BC848B=1K; BC848C=1L

KEL BC846/BC847/BC848



BC846A,B BC847A,B,C BC848A,B,C

■ELECTRICAL CHARACTERISTICS 電特性

($T_A=25^{\circ}\text{C}$ unless otherwise noted 如無特殊說明，溫度為 25°C)

Characteristic 特性參數	Symbol 符號	Min 最小值	Max 最大值	Unit 單位
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■OFF CHARACTERISTICS 截止電特性

Collector-Emitter Breakdown Voltage 集電極發射極擊穿電壓 ($I_c=10\text{mA}$, $I_B=0$)	$V_{(BR)CEO}$ BC846A,B BC847A,B,C BC848A,B,C	65 45 30	—	Vdc
Collector-Base Breakdown Voltage 集電極基極擊穿電壓 ($I_c=10\mu\text{A}$, $I_E=0$)	$V_{(BR)CBO}$ BC846A,B BC847A,B,C BC848A,B,C	80 50 30	—	Vdc
Emitter-Base Breakdown Voltage 發射極基極擊穿電壓 ($I_E=10\mu\text{A}$, $I_c=0$)	$V_{(BR)EBO}$ BC846A,B BC847A,B,C BC848A,B,C	6.0 6.0 5.0	—	Vdc
Collector Cutoff Current($V_{CB}=30\text{V}$) 集電極截止電流($V_{CB}=30\text{Vdc}$, $T_A=150^{\circ}\text{C}$)	I_{CBO}	—	1.5 5.0	nA uA

■ON CHARACTERISTICS 導通電特性

Characteristic 特性參數	Symbol 符號	Min 最小值	Typ 典型值	Max 最大值	Unit 單位
DC Current Gain 直流電流增益 ($I_c=10\mu\text{A}$, $V_{CE}=5.0\text{Vdc}$)	H_{FE} BC846, 7, 8A BC846, 7, 8B BC847, 8C		90 150 270	—	—
($I_c=2.0\text{mA}$, $V_{CE}=5.0\text{Vdc}$)	BC846, 7, 8A BC846, 7, 8B BC847, 8C	110 200 420	180 290 520	220 450 800	
Collector-Emitter Saturation Voltage 集電極發射極飽和壓降 ($I_c=10\text{mA}$, $I_B=0.5\text{mA}$) ($I_c=100\text{mA}$, $I_B=5.0\text{mA}$)	$V_{CE(sat)}$		— —	0.25 0.6	Vdc
Base-Emitter Saturation Voltage 基極發射極飽和壓降 ($I_c=10\text{mA}$, $I_B=0.5\text{mA}$) ($I_c=100\text{mA}$, $I_B=5.0\text{mA}$)	$V_{BE(sat)}$		0.7 0.9		Vdc
Base-Emitter Voltage 基極發射極電壓 ($I_c=2.0\text{mA}$, $V_{CE}=5.0\text{Vdc}$) ($I_c=10\text{mA}$, $V_{CE}=5.0\text{Vdc}$)	$V_{BE(on)}$	580 —	660 —	700 770	mV



BC846A,B BC847A,B,C BC848A,B,C

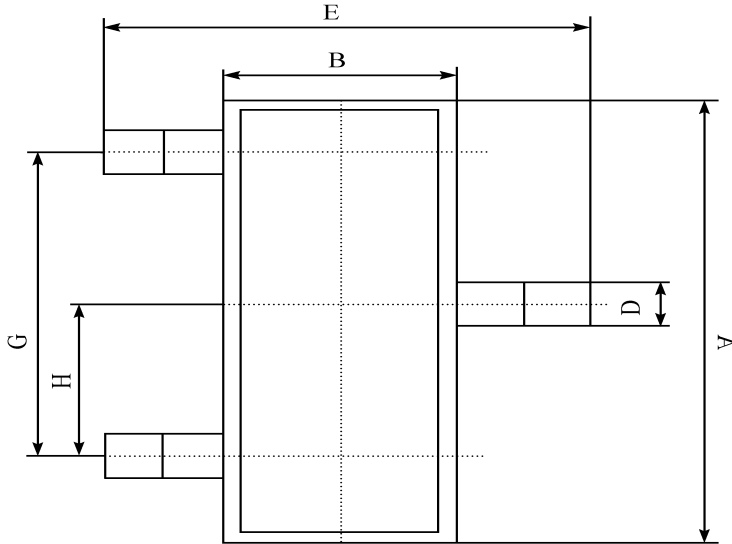
■SMALL-SIGNAL CHARACTERISTICS 小信號特性

Characteristic 特性參數	Symbol 符號	Min 最小值	Typ 典型值	Max 最大值	Unit 單位
Current-Gain-Bandwidth Product 電流增益帶寬乘積 ($I_C=10\text{mA}$, $V_{CE}=5.0\text{Vdc}$, $f=100\text{MHz}$)	f_T	100	—		MHz
Output Capacitance 輸出電容 ($V_{CB}=10\text{Vdc}$, $I_E=0$, $f=1.0\text{MHz}$)	C_{obo}	—	—	4.5	pF
Noise Figure 噪声係數 ($V_{CE}=5.0\text{Vdc}$, $I_C=200\mu\text{A}$, $R_s=2.0\text{k}\Omega$, $f=1.0\text{KHz}$, $BW=200\text{Hz}$)	NF BC846, 7, 8A BC846, 7, 8B BC847, 8C	—	—	10 10 4.0	dB

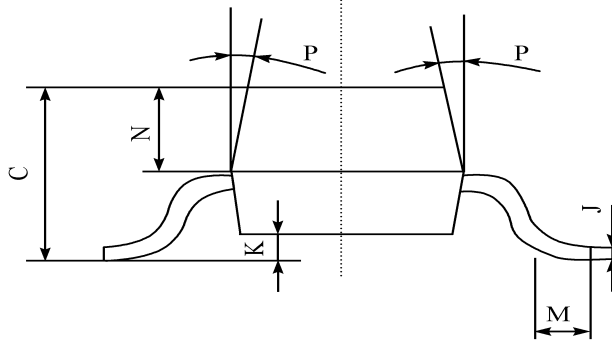


BC846A,B BC847A,B,C BC848A,B,C

■DIMENSION 外形封裝尺寸



序號	數值及公差
A	2.90 ± 0.10
B	1.30 ± 0.10
C	1.00 ± 0.10
D	0.40 ± 0.10
E	2.40 ± 0.20
G	1.90 ± 0.10
H	0.95 ± 0.05
J	0.13 ± 0.05
K	0.00 - 0.10
M	≥ 0.2
N	0.60 ± 0.10
P	7 ± 2°



This datasheet presents technical data of Tak Cheong's Silicon Rectifier Diodes. Complete specifications for the individual devices are provided in the form of datasheets. A comprehensive Selector Guide is included to simplify the task of choosing the best set of components required for a specific application. For additional information, please visit our website <http://www.takcheong.com>.

Although information in this datasheet has been carefully checked, no responsibility for the inaccuracies can be assumed by Tak Cheong. Please consult your nearest Tak Cheong's sales office for further assistance.

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