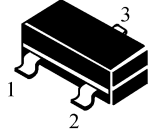




BC856A,B BC857A,B BC858A,B,C

SOT-23

- 1. BASE
- 2. EMITTER
- 3. COLLECTOR



■ MAXIMUM RATINGS 最大額定值

Characteristic 特性參數	Symbol 符號	BC856A,B	BC857A,B	BC858A,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}	-5.0	-5.0	-5.0	Vdc
Collector Current Continuous 集電極電流-連續	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	mW
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	mW
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

BC856A=3A; BC856B=3B; BC857A=3E; BC857B=3F; BC858A=3J; BC858B=3K; BC858C=3L
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KEL BC856/BC857/BC858



BC856A,B BC857A,B BC858A,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 ($I_C=-10\text{mA}$, $I_B=0$)	$V_{(BR)CEO}$ BC856A,B BC857A,B BC858A,B,C	-65 -45 -30	—	Vdc
Collector-Base Breakdown Voltage 集電極基極擊穿電壓 ($I_C=-10\mu\text{A}$, $I_E=0$)	$V_{(BR)CBO}$ BC856A,B BC857A,B BC858A,B,C	-80 -50 -30	—	Vdc
Emitter-Base Breakdown Voltage 發射極基極擊穿電壓 ($I_E=-10\mu\text{A}$, $I_C=0$)	$V_{(BR)EBO}$ BC856A,B BC857A,B BC858A,B,C	-5.0 -5.0 -5.0	—	Vdc
Collector Cutoff Current 集電極截止電流 ($V_{CB}=-30\text{V}$) ($V_{CB}=-30\text{Vdc}$, $T_A=150^{\circ}\text{C}$)	I_{CBO}	—	-15 -4.0	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	H_{FE}				—
($I_C=-10\mu\text{A}$, $V_{CE}=-5.0\text{Vdc}$)	BC856, 7, 8A BC856, 7, 8B BC858C		90 150 270	—	
($I_C=-2.0\text{mA}$, $V_{CE}=-5.0\text{Vdc}$)	BC856, 7, 8A BC856, 7, 8B BC858C	125 220 420	180 290 520	250 475 800	
Collector-Emitter Saturation Voltage 集電極發射極飽和壓降 ($I_C=-10\text{mA}$, $I_B=-0.5\text{mA}$) ($I_C=-100\text{mA}$, $I_B=-5.0\text{mA}$)	$V_{CE(sat)}$		— —	-0.3 -0.65	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 ($I_C=-2.0\text{mA}$, $V_{CE}=-5.0\text{Vdc}$) ($I_C=-10\text{mA}$, $V_{CE}=-5.0\text{Vdc}$)	$V_{BE(on)}$	-0.6 —	— —	-0.75 -0.82	V



BC856A,B BC857A,B BC858A,B,C

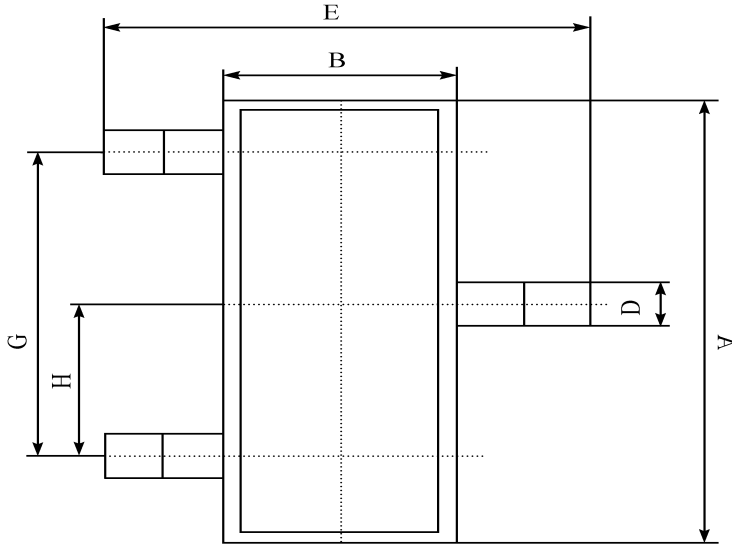
■SMALL-SIGNAL CHARACTERISTICS 小信號特性

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	—	—	10	dB

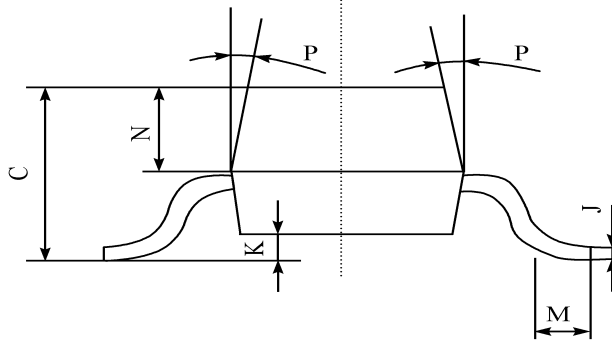


BC856A,B BC857A,B BC858A,B,C

■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>.

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