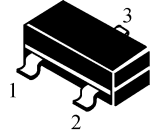


KEL[®]

2SC3838

SOT-23

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



■ MAXIMUM RATINGS 最大額定值

Characteristic 特性參數	Symbol 符號	Rating 額定值	Unit 單位
Collector-Emitter Voltage 集電極發射極電壓	V_{CEO}	11	Vdc
Collector-Base Voltage 集電極基極電壓	V_{CBO}	20	Vdc
Emitter-Base Voltage 發射極基極電壓	V_{EBO}	3.0	Vdc
Collector Current-Continuous 集電極電流-連續	I_c	50	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) $T_A=25^{\circ}\text{C}$ 環境溫度為 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

(2SC3838)=AD

H_{FE} :50-100; 80-150; 120-220; 200-300

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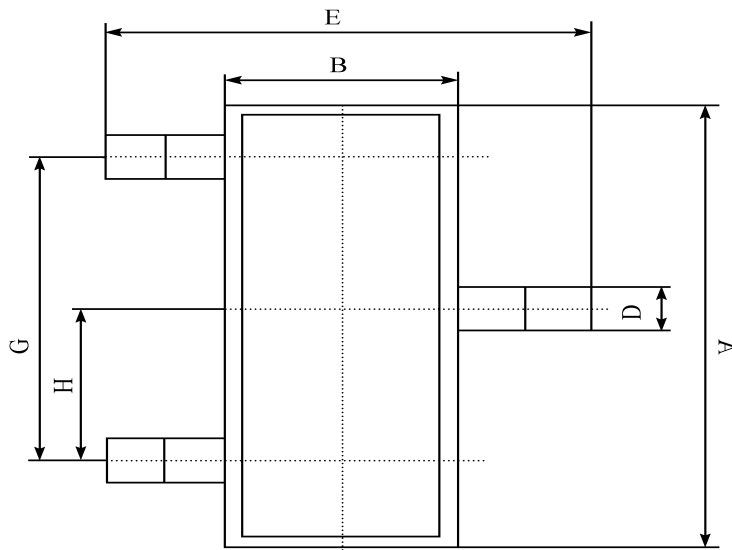
■ELECTRICAL CHARACTERISTICS 電特性

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

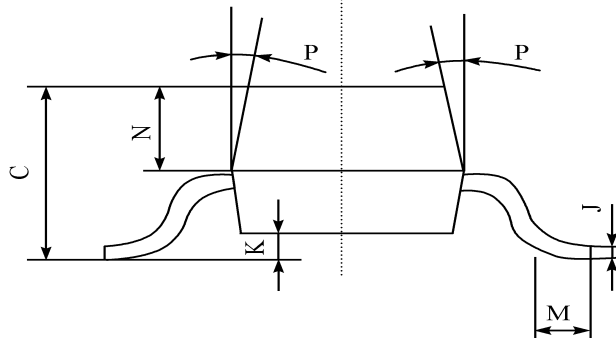
Characteristic 特性參數	Symbol 符號	Min 最小值	Typ 典型值	Max 最大值	Unit 單位
Emitter Cutoff Current 發射極截止電流($V_{EB}=1.0\text{v}, I_C=0$)	I_{EBO}	—	—	1.0	μA
Collector Cutoff Current 集電極截止電流($V_{CB}=10\text{v}, I_E=0$)	I_{CBO}	—	—	1.0	μA
Collector-Base Breakdown Voltage 集電極基極擊穿電壓($I_C=10\mu\text{A}$)	$V_{(BR)CBO}$	20	—	—	V
Collector-Emitter Breakdown Voltage 集電極發射極擊穿電壓($I_C=1\text{mA}$)	$V_{(BR)CEO}$	11	—	—	V
Emitter-Base Breakdown Voltage 發射極基極擊穿電壓($I_E=10\mu\text{A}$)	$V_{(BR)EBO}$	3	—	—	V
Collector Saturation Voltage 集電極飽和壓降($I_C=10\text{mA}, I_B=5\text{mA}$)	$V_{CE(sat)}$	—	—	0.5	Vdc
DC Current Gain 直流電流增益 ($V_{CE}=10\text{v}, I_C=5\text{mA}$)	H_{FE}	50	—	300	
Gain Bandwidth Product 增益帶寬乘積($V_{CE}=10\text{v}, I_C=20\text{mA}$)	f_T	—	3200	—	MHz
Noise Figure 噪声係數 ($V_{CE}=6\text{V}, I_C=2\text{mA}, f=500\text{MHz}, R_g=50\Omega$)	NF	—	—	3.5	dB
Output Capacitance 輸出電容 ($V_{CB}=10\text{v}, I_E=0, f=1.0\text{MHz}$)	C_{ob}	—	0.8	1.5	pF

1. FR-5=1.0×0.75×0.062in.
2. Alumina=0.4×0.3×0.024in.99.5%alumina.

■ 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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