Performance Characteristics / 功能特性

Parameter / 測試參數	Conditions / 條件	Consent Standard / 廠內允收標準
Short time over load 短時過載測試	Itest=2.5*Vmax/Ro; T=25±2°C; t=5s 測試電流=2.5*Vmax/R0; 環境溫度=25±2°C; 通電=5秒	± (0.5%+0.5mΩ) IEC60115-1 4.13
High temp. exposure 高溫曝露測試	T=+170±2°C; t=1000hrs 測試溫度=+170±2°C; 時間=1000小時	± (0.5%+0.5mΩ) IEC60115-1 4.25
Low temp. load life 低溫儲存測試	T=-55±2°C; t=1000hrs 測試溫度=-55±2°C; 時間=1000小時	± (0.5%+0.5mΩ) IEC60115-1 4.25
Moisture load life 高濕負載測試	Vtest=Vmax,ton=90min,toff=30min, T=60±2°C,RH=95%,1000hrs(含以上) 測試電壓=最大電壓; 測試溫度=60±2°C; 相對濕度=90%; 通電90分鐘, 斷電30分鐘; 持續1000小時	± (0.5%+0.5mΩ) IEC60115-1 4.25
Thermal shock 冷熱衝擊測試	[-55°C 30min→ R.T. 3min→ +150°C 30min→ R.T. 3min] by 100 continuous cycles [-55°C 30分鐘→室溫3分鐘→ +150°C 30分鐘→室溫3分鐘] 連續循環100次	± (0.5%+0.5mΩ) IEC60115-1 4.19
Load life at 70°C 70°C 負載測試	Vtest=Vmax; T=70±2°C; t=90min On t=30min Off; 1000hrs 測試電壓=Vmax;測試溫度=70±2°C; 通電90分鐘;斷電30分鐘;持續1000小時	± (0.5%+0.5mΩ) IEC60115-1 4.25
Pulse test 脈衝測試	Ptest=Pr ; T=25°C; t=5s On; tf=5s Off; by 10000continuous cycles 測試功率=額定功率; 測試溫度=25°C; 通電5秒; 斷電5秒; 持續10000個循環	± (0.5%+0.5mΩ) According to Customer's requirement / 客戶需求
Solderability 可焊性	Dipped into solder at 245±5°C for 3±1s 浸入 245±5°C的錫爐中; 持續時間=3±1s; 觀察電極端錫的覆蓋率	A new solder shall cover minimum of 90% IEC60115-1 4.17 新錫使用電極覆蓋面積超過90%
Resistance to solder heat 抗焊接熱測試	20±1s at 275±5°C 放入275±5°C的回焊爐中; 持續時間=20±1s	± (0.5%+0.5mΩ) IEC60115-1 4.18
Substrate bending 彎曲測試	Span between fulcrums: 90mm; Bend width: 2mm; Test board: Glass-Epoxy Board, Thickness=1.6mm by 10 continuous cycles 支點間距=90mm; 彎曲量=2mm; 測試基板: 玻纖環氧樹脂材, 板厚: 1.6mm, 進行10個循環	± (0.5%+0.5mΩ) IEC60115-1 4.33
Mechanical shock 機械衝擊測試	a=100G for 11ms, 5pulse 衝擊加速度=100G; 時間=11ms; 持續5次	± (0.5%+0.5mΩ) IEC60115-1 4.21

Product Selection Guide / 產品選用指南

- Step 1: select the required resistance values for the circuit.
  步驟一: 選擇迴路中所需的電阻值。
- Step 2: choose resistance value of the most accuracy and minimal error of resistance.
  步驟二: 選擇阻值所要的精準度即最小誤差值。
- Step 3: confirm the regular maximum current that flows into the component from the circuit.
  步驟三: 確認迴路流通該元件經常性的最大電流。
- Step 4: calculate the required minimum rated power of the component. The selected value must be higher than the actual value.
  步驟四: 以此電流計算該元件所需具備的最小額定功率,選擇該元件時其值必須大於實際使用值。
- Step 5: select size according to available space on the component.
  步驟五: 根據設計空間大小選擇所需尺寸。
- Step 6: consider the thermal electromotive force (EMF)
  步驟六: 有無熱電動勢(EMF)的考慮。

Product Selection Guide Example / 產品選用指南範例

A design engineer requires CSR to protect the rear end of the power source, and 5 m Ω is required on the circuit design. In addition, the applied power management IC is highly sensitivity and allows low resistance error, thus resistance precision lower than 1% should be opted. Furthermore, its regular current-flow is approximately 15 A, so the applicable resistor should endure a power (P) = 1.125W. The power supply space allocation is limited, so smaller sizes such as 1206 should be selected. Finally, this particular system does consider the EMF effect, therefore, HTC1206C2W0R005F is selected.

一設計工程師於電源後端OCP保護上須用到電流偵測元件(CSR), 其因電路設計關係需用到5mΩ, 又由於其所用之電源管理IC敏感度較大所容許電阻誤差小,故須選擇誤差小於1%的電阻精度,此外其經常性流通電流約在15A, 故此計算該電阻所需承受功耗為P=1.125W, 該電源設計空間小,故須選用較小尺寸如1206尺寸, 再者此系統並不考慮EMF效應,故最後型號選定為HTC1206C2W0R005F。