

## Evolution Dual Series

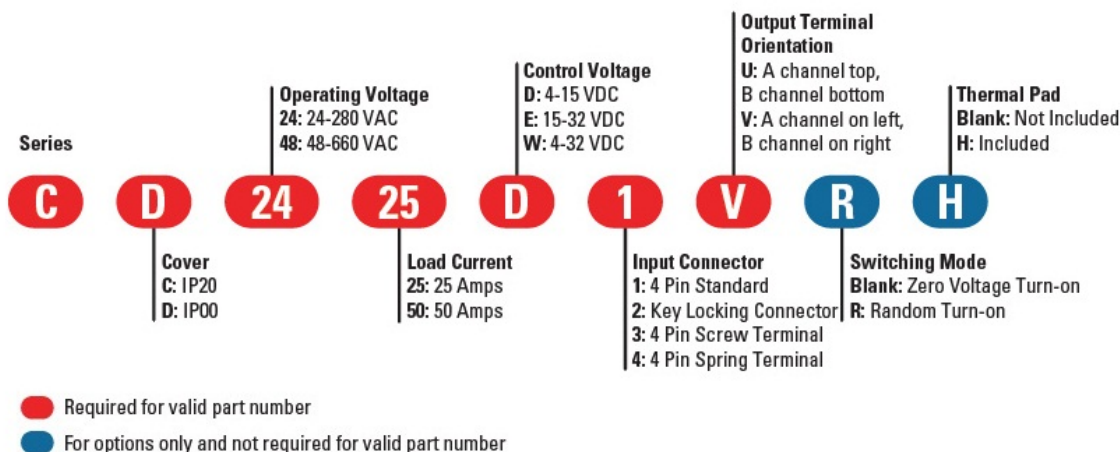


- 25A & 50A Output rating per channel @ 40°C
- 24 to 280 & 48 to 600VAC Operating voltage
- 4-15, 15-32 & 4-32VDC Control input options
- Four input termination options
- Zero-crossing (resistive loads) or random-fire (inductive loads) output
- Input status LED indicator for each channel
- Available with IP20 "Touch-Safe" Covers
- UL508 Endurance Rating

### PRODUCT SELECTION

| Control Voltage | 240V,25A  | 240V, 50A | 480V, 25A | 480V, 50A |
|-----------------|-----------|-----------|-----------|-----------|
| 4-15 VDC        | CD2425D1U | CD2450D1U | CD4825D1U | CD4850D1U |
| 15-32VDC        | CD2425E1U | CD2450E1U | CD4825E1U | CD4850E1U |
| 4-32 VDC        | CD2425W1U | CD2450W1U | CD4825W1U | CD4850W1U |

### AVAILABLE OPTIONS



### OUTPUT SPECIFICATIONS (1)

| Description                                                                  | Cx2425xxxx | Cx2450xxxx | Cx4825xxxx | Cx4850xxxx |
|------------------------------------------------------------------------------|------------|------------|------------|------------|
| Operating Voltage (47-440Hz) [Vrms]                                          | 24-280     | 24-280     | 48-600     | 48-600     |
| Load Current Range (3) [Arms]                                                | 0.15-25    | 0.15-50    | 0.15-25    | 0.15-50    |
| Transient Overvoltage [Vpk]                                                  | 600        | 600        | 1200       | 1200       |
| Maximum Off-State Leakage Current @ Rated Voltage [mA <sub>rms</sub> ]       | 1.0        | 1.0        | 1.0        | 1.0        |
| Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)                 | 500        | 500        | 500        | 500        |
| Maximum 1 Cycle Surge Current (50/60) [Apk]                                  | 275/300    | 710/750    | 275/300    | 710/750    |
| Maximum Surge Current 50Hz (20ms) [Apk]                                      | 275        | 710        | 275        | 710        |
| Maximum On-State Voltage Drop @ Rated Current [Vpk]                          | 1.3        | 1.3        | 1.3        | 1.3        |
| Thermal Resistance Junction to Case [R <sub>jc</sub> ] [°C/W]                | 0.65       | 0.33       | 0.65       | 0.33       |
| Maximum I <sup>2</sup> t for Fusing 50/60Hz (1/2 cycle) [A <sup>2</sup> sec] | 380/370    | 2520/2320  | 380/370    | 2520/2320  |
| Minimum Power Factor (with Maximum Load)                                     | 0.5        | 0.5        | 0.5        | 0.5        |

## INPUT SPECIFICATIONS (1)

| Description                     | CxxxDxxx      | CxxxExxx       | CxxxWxxx       |
|---------------------------------|---------------|----------------|----------------|
| Control Voltage Range           | 4-15 VDC      | 15-32 VDC      | 4-32 VDC       |
| Minimum Turn-On Voltage         | 4 VDC         | 15 VDC         | 4 VDC          |
| Minimum Turn-Off Voltage        | 1.0 VDC       | 1.0 VDC        | 1.0 VDC        |
| Typical Input Current           | 16 mA @ 5 VDC | 18 mA @ 24 VDC | 10 mA @ 12 VDC |
| Nominal Input Impedance         | 300 Ohm       | 1500 Ohm       | See Note 5     |
| Maximum Turn-On Time [msec] (4) | 1/2 Cycle     | 1/2 Cycle      | 1/2 Cycle      |
| Maximum Turn-Off Time [msec]    | 1/2 Cycle     | 1/2 Cycle      | 1/2 Cycle      |

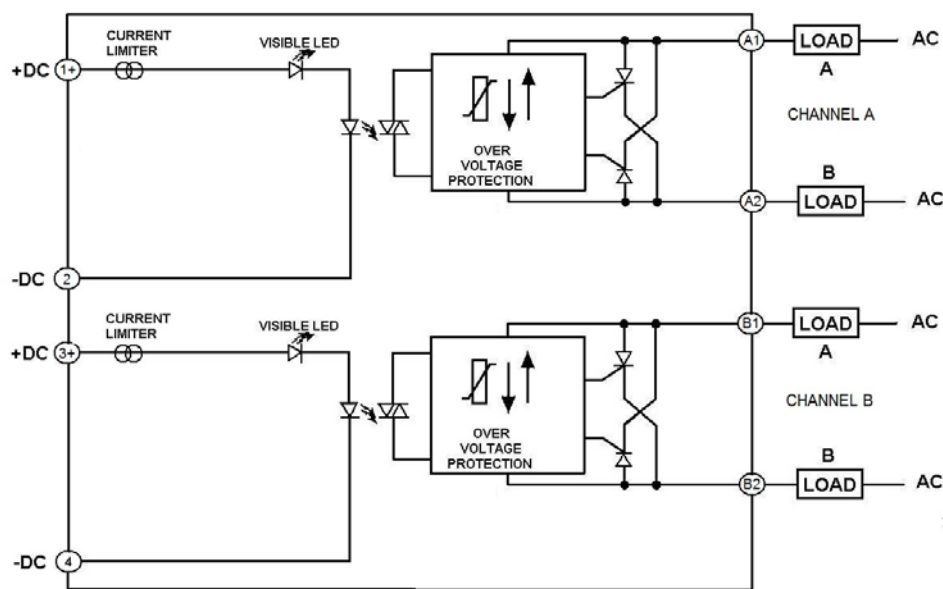
## GENERAL SPECIFICATIONS

| Description                                      | Parameters                |
|--------------------------------------------------|---------------------------|
| Dielectric Strength, Input/Output (50/60Hz)      | 4000 Vrms                 |
| Dielectric Strength, Input/Output/Base (50/60Hz) | 2500 Vrms                 |
| Minimum Insulation Resistance (@ 500 V DC)       | 10 <sup>9</sup> Ohm       |
| Maximum Capacitance, Input/Output                | 10 pF                     |
| Ambient Operating Temperature Range              | -40 to 80 °C              |
| Ambient Storage Temperature Range                | -40 to 125 °C             |
| Weight (typical)                                 | 3.0 oz (86.5 g)           |
| Terminals                                        | Screw Type Output: 8-32   |
| Max. Torque                                      | Output: 20 in lb (2.2Nm)  |
| Max. Wire Size                                   | Output: 2 x AWG 8 (3.8mm) |

## GENERAL NOTES

- 1) All parameters at 25°C and per section unless otherwise specified.
- 2) Off-state dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, see derating curves.
- 4) Turn-on time for random turn-on (R) versions is 0.1 msec.
- 5) Input circuit incorporates active current limitation

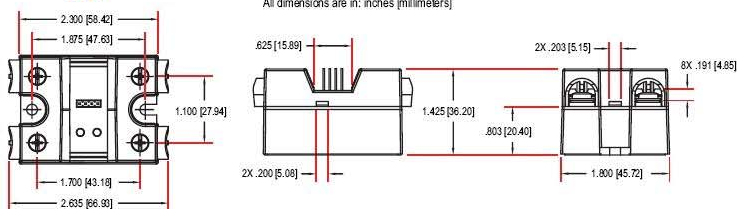
## WIRING DIAGRAM



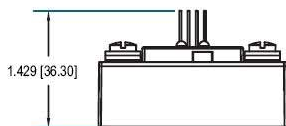
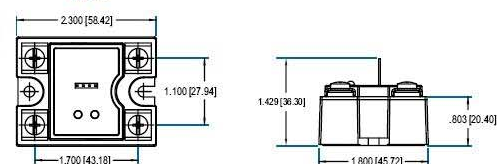
LOAD CAN BE WIRED IN POSITION A or B

## MECHANICAL SPECIFICATIONS

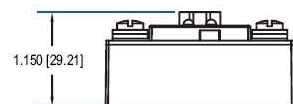
### IP20



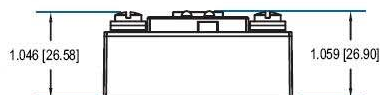
### IP00



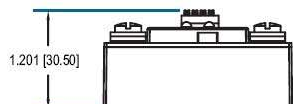
INPUT CONNECTOR  
OPTION 1



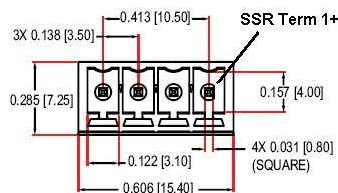
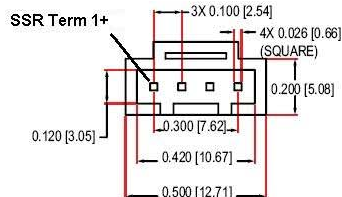
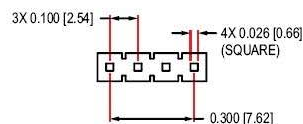
INPUT CONNECTOR  
OPTION 2



INPUT CONNECTOR  
OPTION 3



INPUT CONNECTOR  
OPTION 4

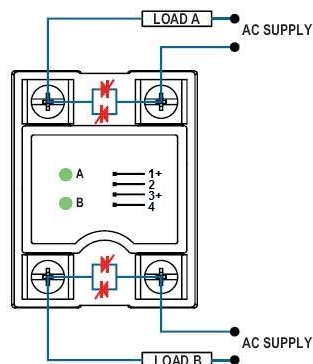


### SUGGESTED MATING CONNECTORS/PLUGS

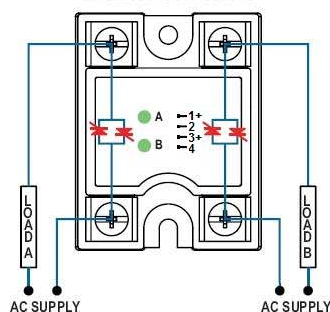
| OPTION 1                         | OPTION 2                                         |
|----------------------------------|--------------------------------------------------|
| Pin Connector<br>TYCO 3-640440-4 | Crimp Housing, Positive Latch<br>Molex 050579404 |
| Accepts wires: AWG #22           | Accepts wires: AWG #24, 0.2 mm <sup>2</sup>      |

### Wiring Diagrams

#### SSR Output Configuration "U" Option Top-Bottom Line/Load Connections



#### Contactor Output Configuration "V" Option Left-Right Line/Load Connections



### SUGGESTED MATING CONNECTORS/PLUGS

#### OPTION 3

##### Vertical Plug, Top Wire entry

Molex 039500-0004  
Phoenix 1840382  
Dinkle EC350V-04P

##### Vertical Plug, Rear Wire entry

Molex 39503-2004  
Phoenix 1862878  
Dinkle EC350RL-04P

##### Vertical Plug, Front Wire entry

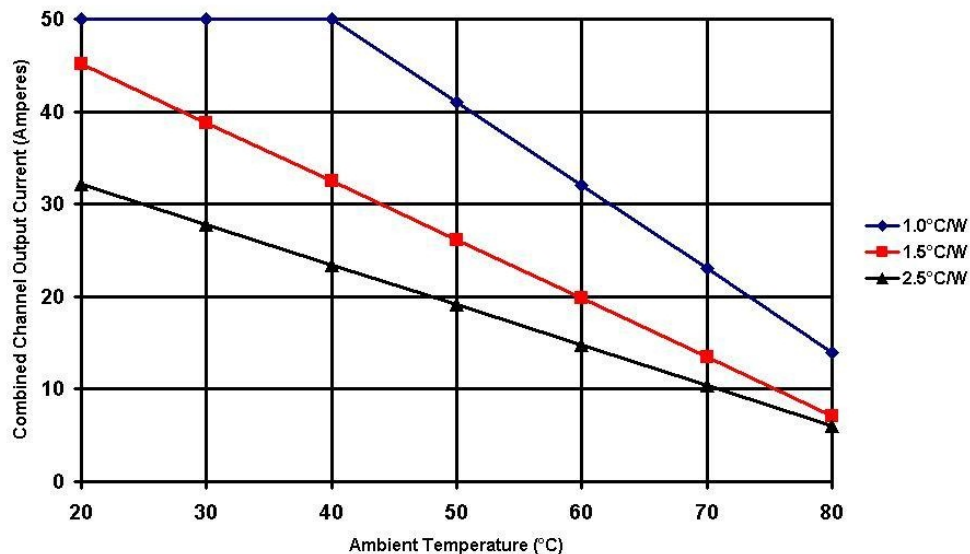
Molex 39503-3004  
Phoenix 1863178  
Dinkle EC350R-04P

##### Vertical Spring Cage Plug, top Wire E

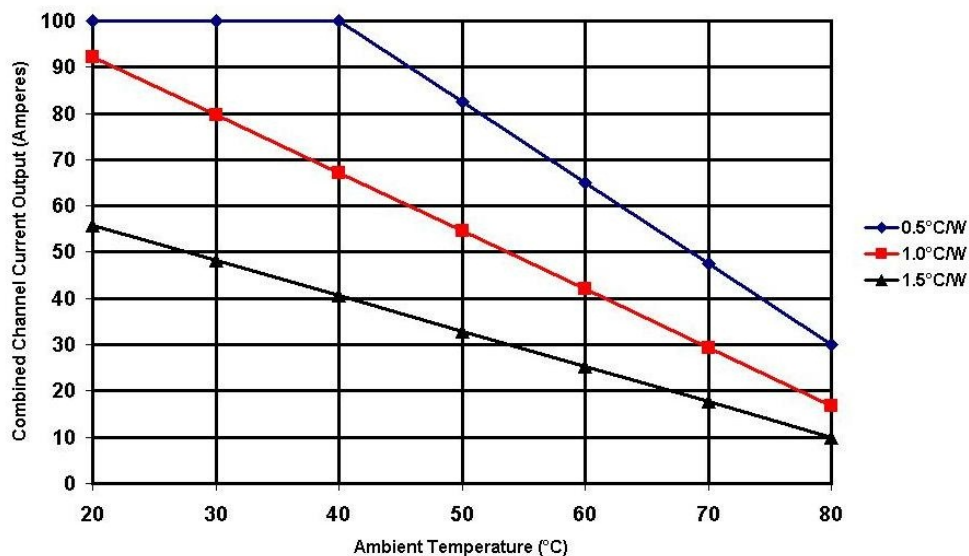
Phoenix 1939934  
Dinkle 0221-2004  
All 4 options accept wires: AWG #16 to 24

## THERMAL DERATE INFORMATION

**DERATING CURVE:**  
25A Evolution Dual SSR



**DERATE CURVE:**  
50A Evolution Dual SSR



## AGENCY APPROVALS

Designed in accordance with the requirements of IEC 62314



E116950



Rev. 113011

|  <b>DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO</b>                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.</b> <ul style="list-style-type: none"> <li>Disconnect all power before installing or working with this equipment.</li> <li>Verify all connections and replace all covers before turning on power.</li> </ul> <p><b>Failure to follow these instructions will result in death or serious injury.</b></p> | <b>RIESGO DE DESCARGA ELECTRICA O EXPLOSION.</b> <ul style="list-style-type: none"> <li>Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo.</li> <li>Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo.</li> </ul> <p><b>El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.</b></p> | <b>RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION</b> <ul style="list-style-type: none"> <li>Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil</li> <li>Vérifier tous connections, et remettre tous couverts en place avant de mettre sous</li> </ul> <p><b>De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.</b></p> | <b>GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.</b> <ul style="list-style-type: none"> <li>Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen</li> <li>Vor der Inbetriebnahme alle Anschlüsse überprüfen und alle Gehäuseteile montieren.</li> </ul> <p><b>Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.</b></p> | <b>RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.</b> <ul style="list-style-type: none"> <li>Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura</li> <li>Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione</li> </ul> <p><b>L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie</b></p> | <b>RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO</b> <ul style="list-style-type: none"> <li>Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento</li> <li>Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento</li> </ul> <p><b>O não cumprimento destas instruções pode levar a morte ou lesões sérias.</b></p> |

|  <b>WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO</b>                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE</b> <ul style="list-style-type: none"> <li>The product's side panels may be hot, allow the product to cool before touching.</li> <li>Follow proper mounting instructions including torque values.</li> <li>Do not allow liquids or foreign objects to enter this product.</li> </ul> <p><b>Failure to follow these instructions can result in serious injury, or equipment damage.</b></p>                                                                           | <b>RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER</b> <ul style="list-style-type: none"> <li>Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher.</li> <li>Respecter les consignes de montage, et notamment les couples de serrage.</li> <li>Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit.</li> </ul> <p><b>Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.</b></p> | <b>GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG</b> <ul style="list-style-type: none"> <li>Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren.</li> <li>Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.</li> </ul> <p><b>Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.</b></p>                             |
| <b>RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD</b> <ul style="list-style-type: none"> <li>Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo.</li> <li>Respetar las instrucciones de montaje, y en particular los pares de apretado.</li> <li>No dejar que penetren líquidos o cuerpos extraños en el producto.</li> </ul> <p><b>Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.</b></p> | <b>RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO</b> <ul style="list-style-type: none"> <li>I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo.</li> <li>Seguire le istruzioni di montaggio corrette.</li> <li>Non far entrare liquidi o oggetti estranei in questo apparecchio.</li> </ul> <p><b>La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.</b></p>                           | <b>RISCO DE DANO MATERIAL E DE AQUECIMENTO</b> <ul style="list-style-type: none"> <li>Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar.</li> <li>Siga devidamente as instruções de montagem.</li> <li>Não permita a entrada de líquidos e de objectos estranhos no produto.</li> </ul> <p><b>A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.</b></p> |

## ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

| Part Name         | Toxic or hazardous Substance and Elements |              |              |                               |                                |                                       |
|-------------------|-------------------------------------------|--------------|--------------|-------------------------------|--------------------------------|---------------------------------------|
|                   | Lead (Pb)                                 | Mercury (Hg) | Cadmium (Cd) | Hexavalent Chromium (Cr (VI)) | Polybrominated biphenyls (PBB) | Polybrominated diphenyl ethers (PBDE) |
| Semiconductor die | X                                         | O            | O            | O                             | O                              | O                                     |
| Solder            | X                                         | O            | O            | O                             | O                              | O                                     |

此附件所标示的包括电子信息产品污染图标的环境信息  
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,  
电子信息产品污染控制标识要求



| 部件名称  | 有毒有害物质或元素 |        |        |               |            |              |
|-------|-----------|--------|--------|---------------|------------|--------------|
|       | 铅 (Pb)    | 汞 (Hg) | 镉 (Cd) | 六价铬 (Cr (VI)) | 多溴联苯 (PBB) | 多溴二苯醚 (PBDE) |
| 半导体芯片 | X         | O      | O      | O             | O          | O            |
| 焊接点   | X         | O      | O      | O             | O          | O            |