

PolySwitch® PTC Devices

**Overcurrent Protection Device** 

PRODUCT: AGRF1400

DOCUMENT: SCD25240 REV LETTER: E REV DATE: JULY 26, 2016 PAGE NO.: 1 OF 3

# **Specification Status: Released**

## Electrical Rating

Voltage: 16V<sub>DC</sub> MAX

Insulating Material: Cured, Flame Retardant Epoxy Polymer

Lead Material:

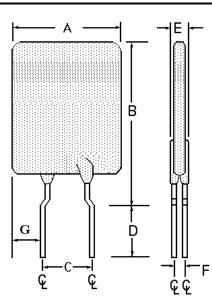
18 AWG Tin Plated Copper (1.0 mm [0.040] nom. diameter)

Part Marking:

——— Manufacturer's Mark

KG14 and Part Identification

Lot Identification



#### TABLE I. INSTALLATION ENVELOPE DIMENSIONS:

|      | А   |         | В   |        | С      |        | D      |     | E   |        | F      | G   |         |
|------|-----|---------|-----|--------|--------|--------|--------|-----|-----|--------|--------|-----|---------|
|      | MIN | MAX     | MIN | MAX    | MIN    | MAX    | MIN    | MAX | MIN | MAX    | TYP    | MIN | MAX     |
| mm:  |     | 23.5    |     | 28.7   | 9.4    | 10.9   | 7.6    |     |     | 3.5    | 1.4    |     | 7.82    |
| in*: |     | (0.925) |     | (1.13) | (0.37) | (0.43) | (0.30) |     |     | (0.14) | (0.06) |     | (0.308) |

\*Rounded off approximation

#### TABLE II. PERFORMANCE RATINGS:

| CURRENT RATINGS        | INIT<br>RESIST |         | R <sub>1 MAX</sub><br>1 HR. POST TRIP<br>RESISTANCE<br>STANDARD TRIP | R <sub>A MAX</sub> | TRIPPED-STATE<br>POWER<br>DISSIPATION |          |
|------------------------|----------------|---------|--|--------------------|---------------------------------------|----------|
| AMPS                   | SECONDS        | OHMS    |  | OHMS               | OHMS                                  | WATTS AT |
| AT 25°C                | AT 25°C, 70 A  | AT 25°C |  | AT 25°C            | AT 25°C                               | 25°C     |
| HOLD HOLD TRIP         | MAX            | MIN     | MAX  |                    |                                       | TYP      |
| AT AT RA               |                |         |  |                    |                                       |          |
| R <sub>1 MAX</sub> MAX |                |         |  |                    |                                       |          |
| 14.0 13.0 27.3         | 9.0            | 0.0022  | 0.0043   | 0.0064             | 0.0067                                | 4.6      |

DocumentsPS400, PS300 (reference for R<sub>1 MAX</sub>)

This specification takes precedence over documents referenced herein.

Reference documents shall be the issue in effect on the date of invitation for bid.

Operation beyond the rated voltage or current may result in rupture, electrical arcing or flame.

### **Materials Information**

Reference

CAUTION:

Precedence: Effectivity:



\* Halogen Free refers to: Br $\leq$ 900ppm, Cl $\leq$ 900ppm, Br+Cl $\leq$ 1500ppm.



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### TABLE III. AUTOMOTIVE SPECIFIC STRESS TESTS AND TEST CONDITIONS:

| ELECTRICAL STRESS TESTS                | TEST CONDITIONS (see note 2)     |
|--|----------------------------------|
| ESD Voltage Withstand<br>(see note 1)  | 25kV                             |
| Short Circuit Fault Current Durability | 25 cycles, 16V, 200A             |
| Fault Current Durability               | 350 cycles, 16V/100A             |
| End-of-life Mode Verification          | 1750 cycles, 16V/100A            |
| Jump Start Endurance<br>(see note 1)   | 3 cycles, 26V, 1 minute duration |
| Load Dump Endurance<br>(see note 1)    | 10 cycles, 86.5V                 |

Note 1: The PolySwitch devices are tested in series with a load resistance and the voltages specified in the test conditions are

T shared between the PolySwitch device and the load resistance as specified in PS400.

Note 2: Please refer to Appendix A of PS400 for the detailed test procedures

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