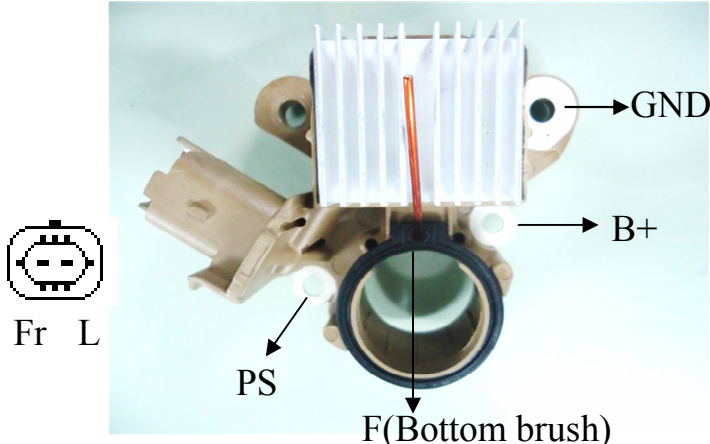


|             |                                              |           |                    |
|-------------|----------------------------------------------|-----------|--------------------|
| <b>NAME</b> | <b>VR-H2009-196 Electrical Specification</b> | <b>NO</b> | <b>VR-1-1-1547</b> |
|-------------|----------------------------------------------|-----------|--------------------|

|                                                                                                                                           |                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Regulation System Connection Wire Diagram</b></p>  | <p><b>System Regulator Type:</b></p> <ul style="list-style-type: none"> <li>● Voltage Set Point :14.5V</li> <li>● Regulation : A – Circuit</li> <li>● Active Lamp</li> <li>● Soft Start , 5 sec LRC</li> <li>● FR : Connected to Computer</li> </ul> |
|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| PARAMETERS AND CONDITIONS                                        | SYMBOLS    | MIN.  | TYP.  | MAX.  | UNITS  |
|------------------------------------------------------------------|------------|-------|-------|-------|--------|
| <b>Operating Temperature Range</b>                               | $T_{OP}$   | -30   | ---   | 125   | °C     |
| <b>Field</b>                                                     | $I_F$      | ---   | 5     | ---   | A      |
| <b>Voltage Set Point</b><br>(2500 RPM, at 20A load)              | $V_{SET}$  | 14.30 | 14.50 | 14.70 | V      |
| <b>Secondary Set Point</b><br>(2500 RPM ,at 20A load)            | $V_{SET2}$ | ---   | ---   | ---   | V      |
| <b>Speed Regulation</b><br>(2000 RPM to 6000 RPM ,at load = 15A) | $V_{SR}$   | ---   | -0.1  | -0.3  | V      |
| <b>Load Regulation</b><br>(10% to 95% ,at Speed = 6000 RPM)      | $V_{LR}$   | ---   | -0.4  | -0.5  | V      |
| <b>Saturation Voltage @ 5A, 12Volts</b>                          | $V_{SAT}$  | ---   | 0.6   | 0.8   | V      |
| <b>Standby Current</b><br>(Key off, $V_{BAT} = 12.6V$ )          | $I_{SB}$   | ---   | ---   | 1.0   | mA     |
| <b>Temperature Coefficient</b>                                   | $T_C$      | -6    | -3    | -0    | mV/ °C |
| <b>Over voltage Indication</b>                                   | $V_{OV}$   | 16    | 16.5  | 17    | V      |
| <b>Under voltage Indication</b>                                  | $V_{UV}$   | 9     | 9.5   | 10    | V      |
| <b>Soft-Start Duty</b>                                           | $D_{SS}$   | 15    | 20    | 25    | %      |
| <b>LRC Delay Time(@&lt;3000rpm)</b>                              | $T_{LRC}$  | 4     | 5     | 6     | Sec    |
| <b>Cut-in Speed</b>                                              | $R_{CIS}$  | ---   | ---   | 1300  | RPM    |

**Safety Characteristics:**

- **Over voltage :**  $V_s = 24 V$  , 60 sec. from the ignition SW. is turned ON/OFF without failure.
- **Battery Reversal :**  $V_s = -14 V$  , 60 sec. from accidental battery reversal without failure.
- **Short Circuit Protection :** The regulator stands short circuit of Field without failure.
- **Repetitive Thermal Shock :**  
The Regulator shall be designed to withstand 500 cycles of -30°C to 125 °C in 20 minutes and 125 °C to -30 °C in 20 minutes.
- **High Temperature Test :**  
The Regulator shall be designed to operate reliability at the rated current of alternator is 80% to 100% and at 6000 rpm ( shaft speed ) for a minimum of 10 hours at 125 °C.

|                       |                         |         |             |        |          |             |
|-----------------------|-------------------------|---------|-------------|--------|----------|-------------|
| 2015.08.26            |                         | 1       | 廖建榮         | 卓建廷    | 陳建文      | MOBILETRON  |
| Date of first edition | Date of revised edition | Edition | Manu-script | Review | Approval | Aug.31.2015 |
|                       |                         |         |             |        |          | Release     |