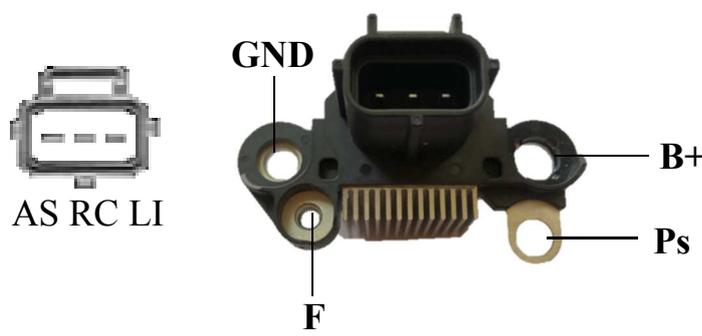


<b>NAME</b>	<b>VR-H2009-242 Electrical Specification</b>	<b>NO</b>	<b>VR-1-1-2191</b>
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<p style="text-align: center;"><b>Regulation System Connection Wire Diagram</b></p>  <p>The diagram shows a black regulator with several terminals. Labels with leader lines point to: GND (ground), B+ (battery positive), Ps (power sense), F (field), and AS RC LI (alternator signal).</p>	<p><b>Regulator Features :</b></p> <ul style="list-style-type: none"> <li>● Voltage Set Point : 13.9V (Used ALT-98 &amp; 337 plug)</li> <li>● Voltage Set Point : 14.1 V (RC 50 % duty cycle)</li> <li>● Regulation :B- circuit</li> <li>● Regulated Voltage Control (RVC)</li> </ul>
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PARAMETERS AND CONDITIONS		SYMBOLS	MIN.	TYP.	MAX.	UNITS
Operating Temperature Range		$T_{OP}$	-40	---	125	°C
Field		$I_F$	---	5	---	A
Voltage Set Point (2500 RPM, at 20A load)	@ RC = 20% duty cycle	$V_{SET}$	12.60	12.90	13.20	V
	@ RC = 50% duty cycle		13.90	14.20	14.50	
	@ RC = 70% duty cycle		14.80	15.10	15.40	
Secondary Set Point (2500 RPM ,at 20A load)	@ RC = 20% duty cycle	$V_{SET2}$	12.70	13.00	13.30	V
	@ RC = 50% duty cycle		13.60	14.30	14.60	
	@ RC = 70% duty cycle		14.90	15.20	15.50	
Speed Regulation (2000 RPM to 6000 RPM ,at load = 15A)		$V_{SR}$	---	-0.1	-0.3	V
Load Regulation (10% to 95% ,at Speed = 6000 RPM)		$V_{LR}$	---	-0.3	-0.5	V
Saturation Voltage @ 5A, 12Volts		$V_{SAT}$	---	0.6	0.8	V
Standby Current (Key off, VBAT = 12.6V)		$I_{SB}$	---	---	1.0	mA
Temperature Coefficient		$T_C$	-6	-3	0	mV/°C
LI signal frequency (LI is an output signal to PCM.)		$f_{LI}$	100	125	150	Hz
RC signal frequency (The duty cycle will determine the set point.)		$f_{RC}$	100	125	150	Hz
Regulator Operating frequency		$f_{Reg}$	125	250	275	Hz

**Safety Characteristics:**

- **Over voltage :**  $V_s = 24 V$  , 60 sec. from the ignition SW. is turned ON/OFF without failure.
- **Short Circuit Protection :** The regulator shall stand **short circuit on Field** without failure and return normal operation within 2 seconds once short condition is removed.
- **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 reliably at the load from 80% to 100% of the alternator rated current and at 6000 rpm ( shaft speed ) for a minimum of 10 hours at 125°C.

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