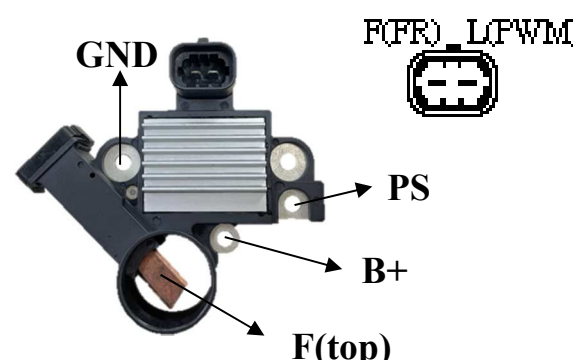


NAME	VR-D327 Electrical Specification	NO	VR-1-1-2244
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<p style="text-align: center;">Regulation System Connection Wire Diagram</p> 	<p>Regulator Features :</p> <ul style="list-style-type: none"> ● Voltage Set Point : 13.8V (Default Vset) ● Voltage Set Point : 14.3 V (L(PWM) 70 % duty cycle) ● Regulation : B – Circuit ● Inactive Lamp ● Soft Start , 4.0sec LRC ● Short Circuit Protection ● L Terminal connected to Computer ● F Terminal connected to Computer
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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)	V_{SET}	@ L = 20% duty cycle	11.30	11.60	11.90	V
		@ L = 70% duty cycle	14.00	14.30	14.60	
		@ L = 90% duty cycle	15.10	15.40	15.70	
		@ L open (Default)	13.50	13.80	14.10	
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}	---	0.4	0.5	V	
Standby Current (Key off, VBAT = 12.6V)	I_{SB}	---	---	1.0	mA	
Temperature Coefficient	T_C	-6	-3	0	mV/°C	
LRC Delay Time (@ >3000rpm)	T_{LRC}	2.5	4.0	5.5	Sec	
Soft-Start Duty	D_{SS}	30	35	40	%	
Cut-in Speed	R_{CIS}	---	---	1300	RPM	
Over Current Protection Threshold (@ 25°C)	I_{SD}	10	---	---	A	
Thermal Shutdown Threshold	T_{SD}	150	160	170	°C	
Regulator Operating frequency	f_{Reg}	350	400	450	Hz	
L signal frequency (The duty cycle will determine the voltage set point.)	f_L	83	128	173	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 .

2022.11.1		1	王毅賢	柯文彬	陳建文	陳建文		
DATE OF FIRST EDITION	DATE OF REVISED EDITION	EDITION	MANU-SCRIPT	ORI-GINAL REVIEW	SECOND REVIEW	APP-ROVAL	ISSUED MARK	COPY'S NUMBER