

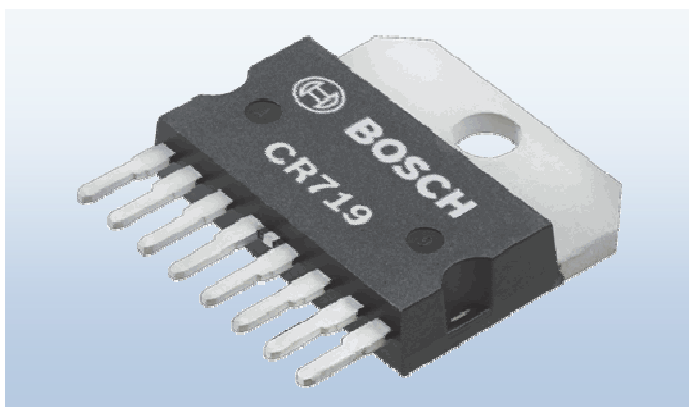
Automotive Electronics Product Information

CR719 – Multi-Function Alternator Regulator



BOSCH

Invented for life



Customer benefits

- ▶ Fully-integrated alternator regulator
- ▶ Active load dump and response functions
- ▶ Diagnostics and counter-measures for common failures
- ▶ Operation in rough environments
- ▶ Lamp brightness stabilized
- ▶ MW8 package or bare die
- ▶ Proven in numerous OEM applications
- ▶ Five variants available

Functions to protect alternator and battery

- ▶ Emergency start via V pin phase if L pin is disconnected
- ▶ Monitor of excitation field driver circuit
- ▶ Continuous B+ measurement and appropriate response
- ▶ Field current limitation
- ▶ Temperature dependent regulation voltage reduction
- ▶ Power stage shutdown at extreme temperature
- ▶ Short circuit protection on L and DF power stages

Features

- ▶ Single chip, closed loop voltage control of 14V automotive synchronous alternators
- ▶ Free-wheeling diode integrated
- ▶ Applicable for all numbers of pole pairs, defaults for 6 and 8 pole pairs
- ▶ Field current from fixed frequency high side PWM
- ▶ Voltage set point trimmed in production
- ▶ Soft start procedure with no torque load
- ▶ Relay driver integrated
- ▶ Load response functionality
- ▶ Active handling of load dump
- ▶ Autonomous default operation mode
- ▶ Very low stand-by current
- ▶ No data loss down to 5.5V
- ▶ Accepts jump start with 24V

Communication features

- ▶ DFM terminal indicates duty cycle of output stage
- ▶ Lamp terminal indicates errors
- ▶ Wake up from lamp L pin or alternator phase V pin

Multiwatt 8 package pin list

Pin		Function
1	DFM	Dynamo field monitor
2	L	Lamp terminal
3		n/c
4	B+	Battery
5		n/c
6	V	Alternator phase terminal
7	DF	Dynamo field high side driver
8	GND	Alternator ground terminal

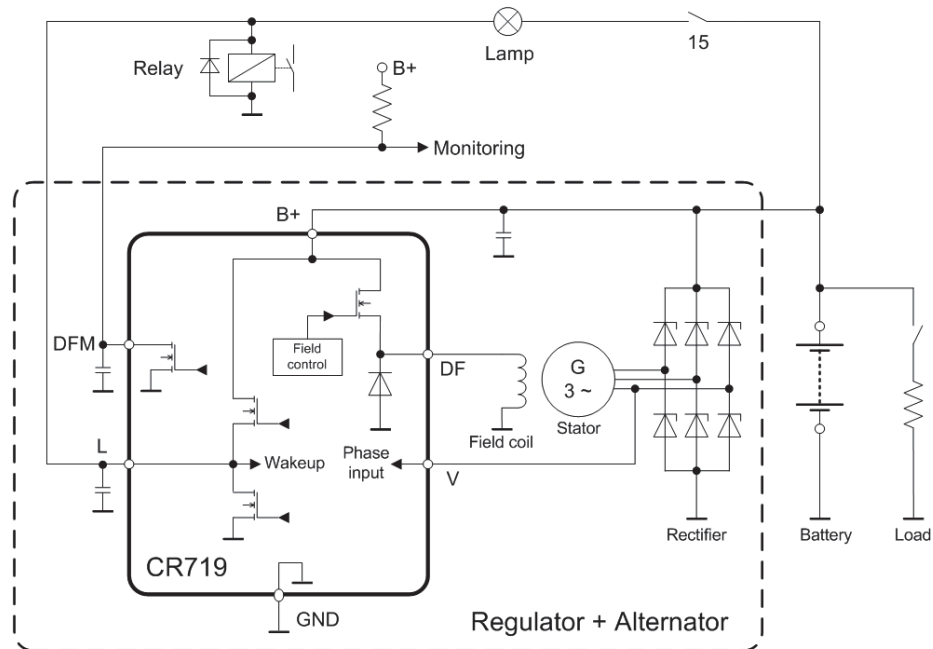
Multiwatt 8 package from top



Key parameters

			min.	max.
Top operating temperature min=cont., max=0.25h/5%LT	T _J	°C	140	150
Operating supply voltage	V _{B+}	V	7.5	24
Supply with no data loss	V _{B+}	V	5.5	7.5
Transient over-voltage t<0.4s on pins	V _{B+}	V		37
Field driver on-resistance at 150°C / 3A	R _{on}	mΩ		110
Standby current	I _{STBY}	μA	60	500
Relay /w diode	I _R	A		1
Lamp load	P _L	W		5

Application Diagram



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