



Eaton Enables Efficient Power Delivery for Electronic Automotive Infotainment/Telematics Systems

Ninety percent of all new vehicles offer some level of telematics(1). Infotainment and telematics systems are some of the top desired features in a car's central interface. This allows drivers to talk hands-free with Bluetooth connectivity, receive GPS route guidance, watch movies, listen to music, and receive vehicle diagnostics and maintenance notifications.

Infotainment/telematics systems interfacing with the advanced driver assistance system (ADAS) are increasing the amount of electronics in the engine compartment. As the standardization of automotive electronics platforms continues to increase, so does the need to perform under harsher ambient conditions. This requires electronic components to endure a wide temperature range, high humidity conditions, electromagnetic interference (EMI) and G forces to ensure

many years of reliability.

Today's infotainment/telematics systems are equipped with more powerful microprocessors requiring more power to handle many vital functions throughout the vehicle. The HCM1A line of pressed powder inductors offers excellent thermal dissipation characteristics which is crucial when operating at higher currents and ambient temperatures. Because of the amount of EMI sensitive electronics, Eaton's solution offers low core losses and magnetic shielding to reduce EMI and help minimize noise intrusion.

HCM1A inductors are AEC-Q200 Automotive Grade 1 compliant, and can withstand $-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$ ambient temperatures. HCM1A has a maximum operating temperature of $+155\text{ }^{\circ}\text{C}$ ($+125\text{ }^{\circ}\text{C}$ ambient plus a $30\text{ }^{\circ}\text{C}$ full load self-temperature rise).

The low core loss performance of the HCM1A product line is designed for input and output filtering applications used in more sophisticated digital control and direct current (DC) motors. These motors generate noise in engine compartments that could adversely affect the performance of adjacent electronic systems. Filters with HCM1A inductors are designed to reduce this noise.

The HCM1A product line offers a wide range of footprint sizes and inductance values.

Eaton's automotive grade product lines, DRA, MPIA and HCM1A, provides automotive electronics engineers with the latest advancements in power magnetics for DC-DC converters and other power filtering requirements.

(1) ABI Research

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