

Application Guide

KEMET makes it possible.

Electronic Components

KEMET

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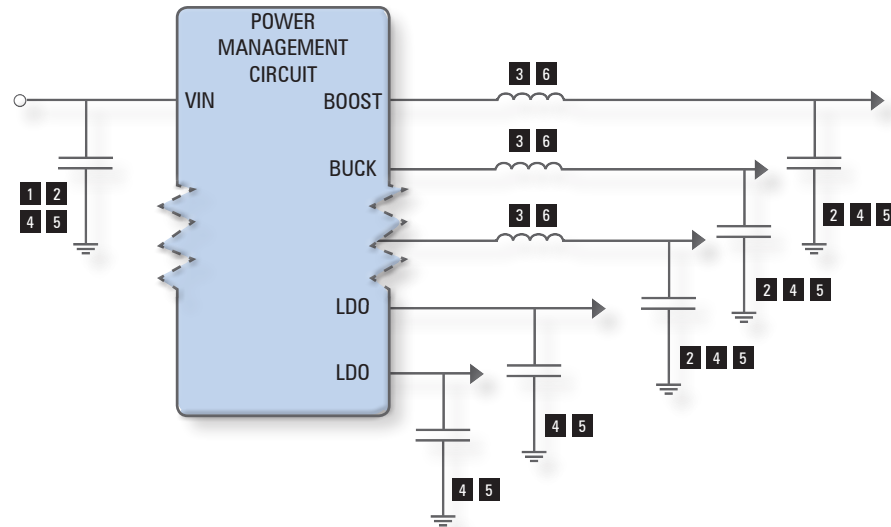
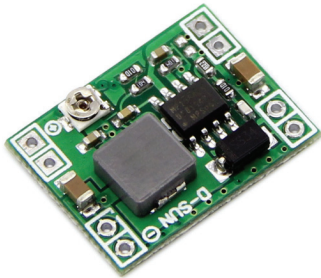
Why Choose KEMET

KEMET Electronics Corporation is a leading global supplier of electronic components. We offer our customers the broadest selection of capacitor technologies in the industry, along with an expanding range of electromechanical devices, electromagnetic compatibility solutions and supercapacitors. Our vision is to be the preferred supplier of electronic component solutions for customers demanding the highest standards of quality, delivery and service.



Low Voltage and DC Applications

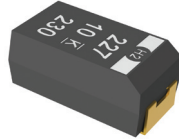
DC POWER DISTRIBUTION



1 SMT ALUMINUM ELECTROLYTIC
EDH, EDK, EEV, EXV



2 KO-CAP®
T520, T521, T530



3 POWER INDUCTOR
MPC, CPI, HDI, PLC, SBC



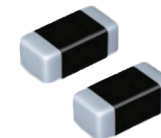
4 MLCC
X7R, X5R



5 ALUMINUM POLYMER
A700, A720



6 CHIP INDUCTORS
PWS, PWI, PWR, PWF



FREQUENTLY ASKED QUESTIONS

What input voltage(s) are you using?

What output voltage(s) are you using?

What type of voltage regulators?

What frequency are switching regs running?

How much output current?

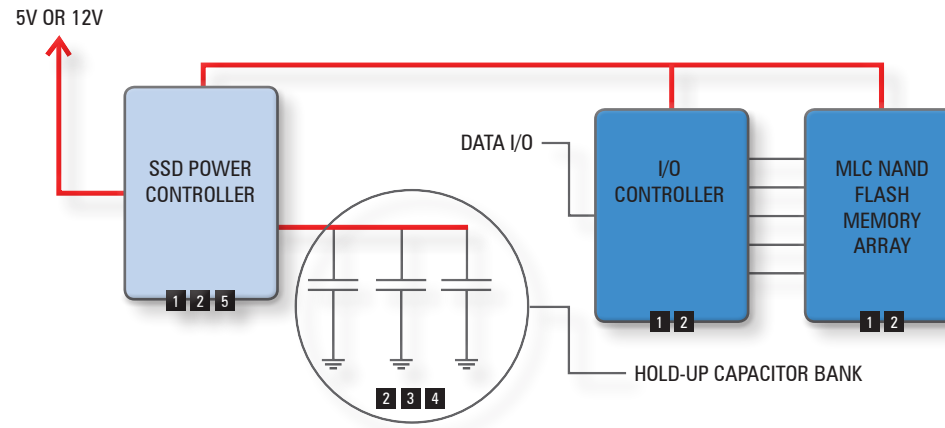
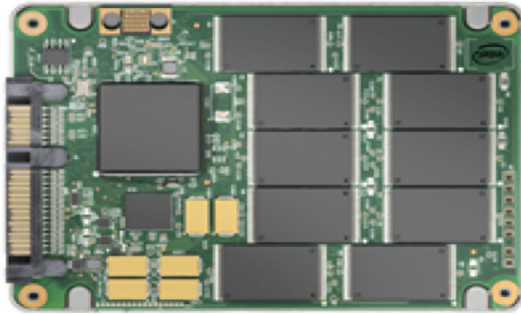
What is the circuit application of each "rail"?

Using an OTS module or designing your own?

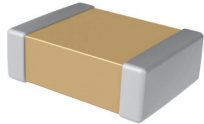
Whose regulators are you using?

SOLID STATE DRIVE (SSD)

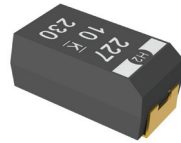
POWER BLOCKS DIGITAL BLOCKS



1 MLCC
X7R, X5R



2 KO-CAP®
T545



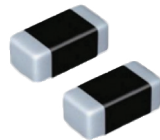
3 RADIAL ALUMINUM ELECTROLYTICS
ESK, ESH, ESC, ESG



4 RADIAL SUPERCAPACITORS
HVZ SERIES



5 INDUCTORS
PWS, PWI, PWR, PWF



FREQUENTLY ASKED QUESTIONS

Is this SSD for enterprise or server applications?

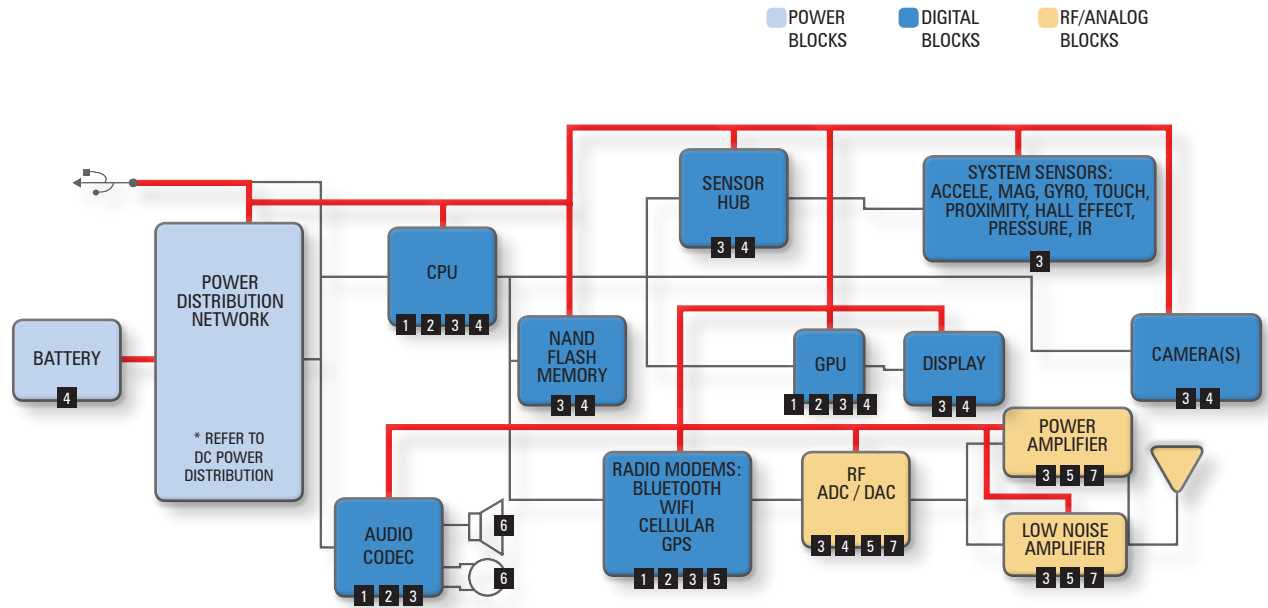
How much footprint and height space is available for hold-up?

What is the input voltage for the system?

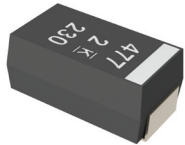
What are the operating temperature and storage temperature conditions of the SSD?

What is the expected lifetime of the device?

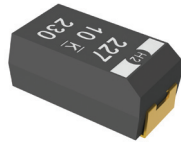
SMARTPHONE/ TABLET



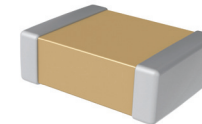
1 ALUMINUM POLYMER
A700, A720



2 KO-CAP®
T520, T528, T521, T529



3 MLCC
COG, X7R, X5R



4 FLEX SUPPRESSOR®
EFH, EFG, EFF



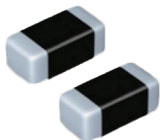
5 RF MLCC
CBR



6 ACOUSTIC MODULE
MINIATURE ACUTATOR Rxx



7 CHIP INDUCTORS
RMS



FREQUENTLY ASKED QUESTIONS

Is this a Qualcomm-based design?

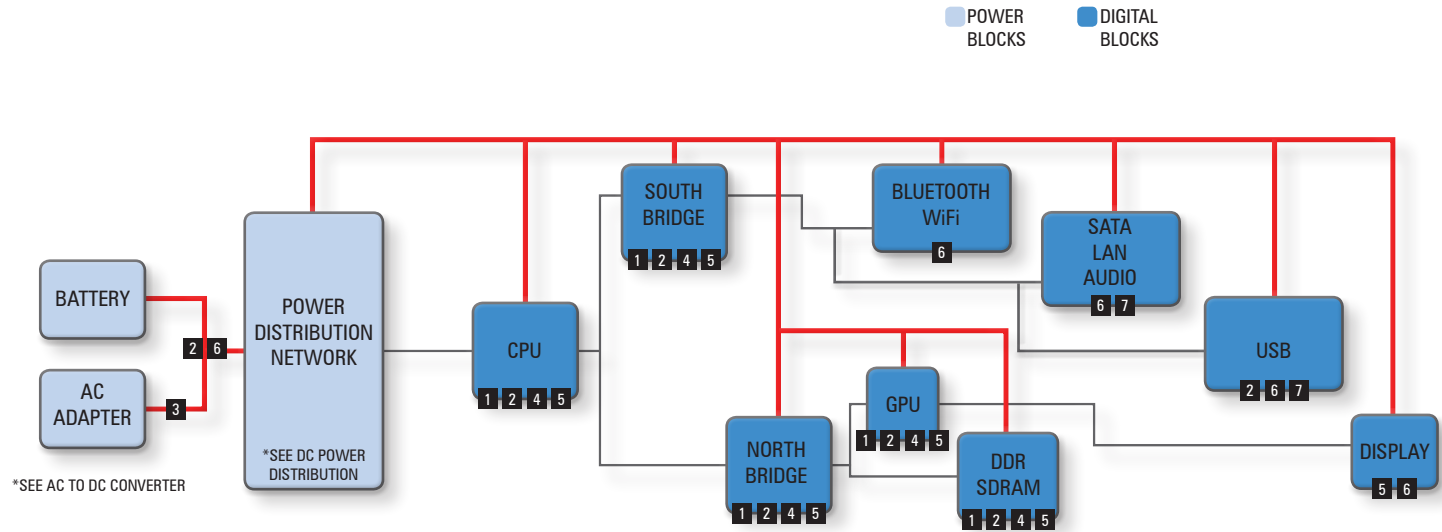
What type of display are you using?

What type of battery are you using?

What voltage rails are on your system?

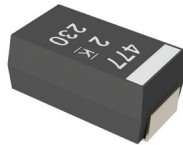
Does the design need to be waterproof?

LAPTOP COMPUTER



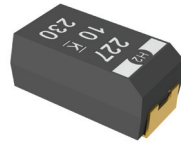
1 ALUMINUM POLYMER

A700, A720



2 KO-CAP®

T520, T528, T521, T529



4 FLEX SUPPRESSOR®

EFH, EFG, EFF



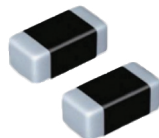
5 MLCC

COG, X7R, X5R



7 INDUCTORS

PWS, PWI, PWR, PWF



3 EMI CORE

ESD



6 ALUMINUM ELECTROLYTIC

EDH, EDK, ESK, ESH



FREQUENTLY ASKED QUESTIONS

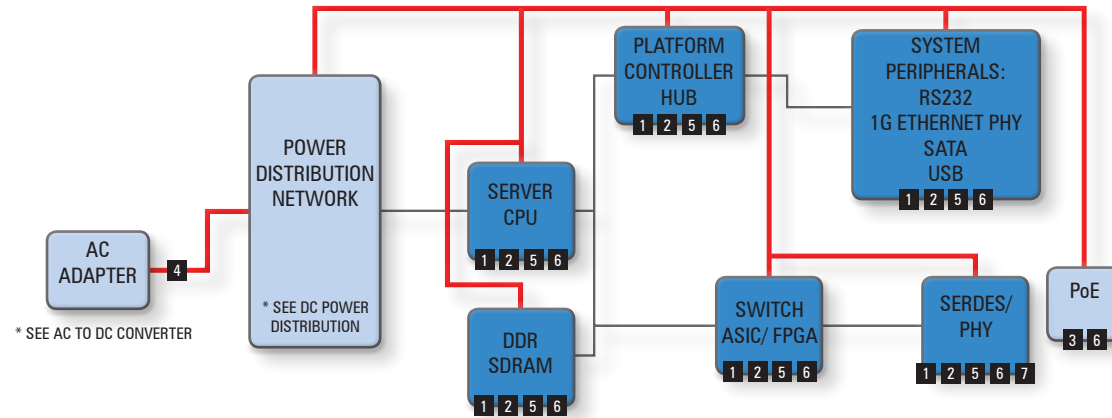
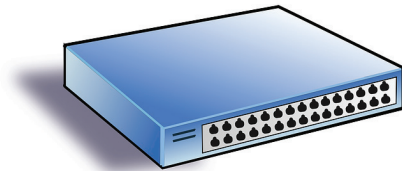
What chipset architecture are you using?

Is this a commercial system or for industrial/military use?

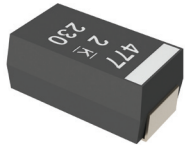
What type of communication peripherals are on your system?

NETWORK SWITCH

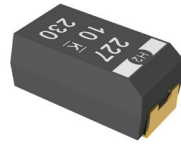
POWER BLOCKS DIGITAL BLOCKS



1 ALUMINUM POLYMER
A700, A720



2 KO-CAP®
T520, T521, T530



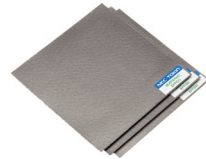
3 CURRENT SENSOR
MDCS



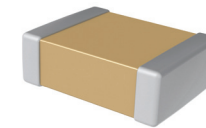
4 EMI CORE
ESD



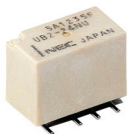
5 FLEX SUPPRESSOR®
EFH, EFG, EFF



6 MLCC
X7R, COG, X5R



7 SIGNAL RELAY
UB2, UD2



FREQUENTLY ASKED QUESTIONS

What chipset architecture are you using?

Is this a commercial system or for industrial/military use?

What type of communication peripherals are on your system?

How is the equipment powered (AC Line or 48V DC)?

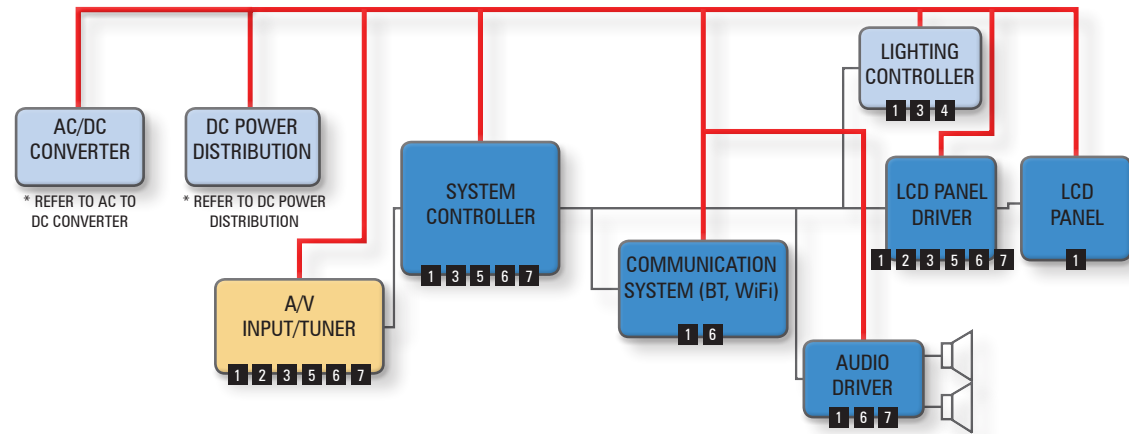
Does your design need a "LAN Bypass" or "fail over" relay?

KEMET
APPLICATION GUIDE
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FLAT PANEL TV



■ POWER BLOCKS
■ DIGITAL BLOCKS
■ RF/ANALOG BLOCKS



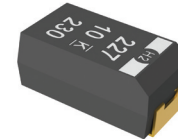
1 MLCC
X7R, X5R



2 CHIP FILTER
M-500CT, M-600T



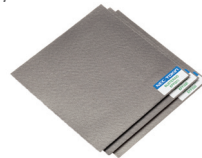
3 KO-CAP®
T520, T521



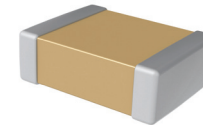
4 POWER INDUCTOR
MPC, CPI, HDI, PLC, SBS



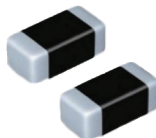
5 FLEX SUPPRESSOR®
EFH, EFG, EFF



6 MLCC
COG



7 INDUCTORS
PWS, PWI, PWR, PWF



FREQUENTLY ASKED QUESTIONS

What type of backlight system are you using?

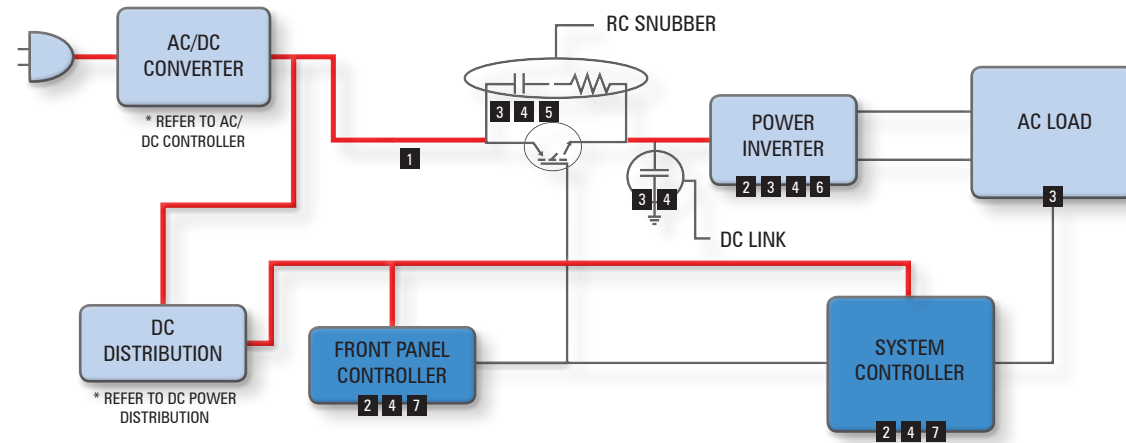
What type of wireless connectivity options does your system have?

What is your power consumption target for the whole system?

HIGH EFFICIENCY APPLIANCES



POWER BLOCKS DIGITAL BLOCKS



1 EMI CORE
ESD



2 ALUMINUM ELECTROLYTIC
EDH, EDK, ESK, ESH, ELH, ELG



3 FILM
C4AE



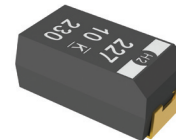
4 MLCC
COG, X7R, X5R



5 FILM OR RC SNUBBER
R71, R73, R76, C4AS, F43



6 KO-CAP®
T520, T521



7 RADIAL SUPERCAPACITOR
FG, FE, FM, FR



FREQUENTLY ASKED QUESTIONS

Are you using an inverter to drive the motors in this application?

Are you using an inverter to drive the motors?

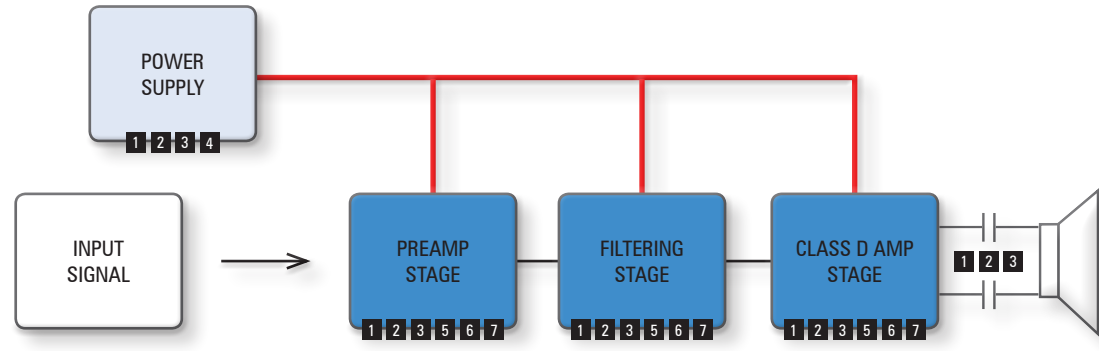
What are the operating voltages of the controller and the motors?

What is the application of the system?

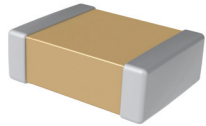
AUDIO EQUIPMENT



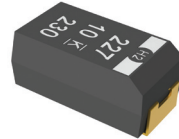
POWER BLOCKS DIGITAL BLOCKS



1 MLCC
X7R, X5R



2 KO-CAP®
T520, T521, T530



3 SMT ALUMINUM ELECTROLYTIC
EDH, EDK, EEV, EXV



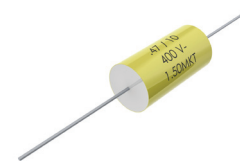
4 POWER INDUCTOR
MPC, CPI, HDI, PLC, MPL, MPLC, MPGH



5 LEADED CERAMIC
GoldMax



6 LEADED FILM
A50



7 SNAP-IN ALUMINUM ELECTROLYTIC
ALC10S



FREQUENTLY ASKED QUESTIONS

Is this a solid state device?

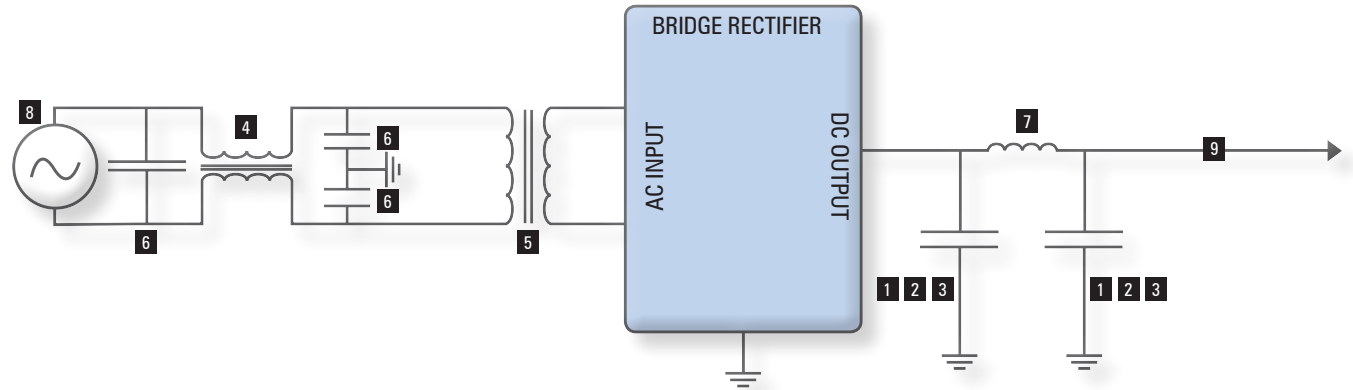
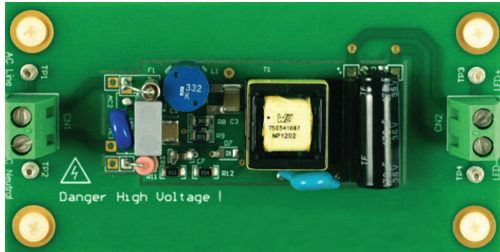
What connectivity options does the unit have?

What is the power and output impedance of the amp?



AC and Power Applications

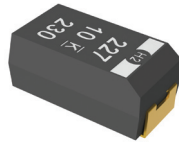
AC TO DC CONVERTER



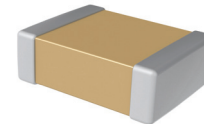
1 ALUMINUM ELECTROLYTIC
EDH, EDK, ESK, ESH, ELH, ELG



2 KO-CAP®
T520, T521, T530



3 MLCC
X7R, X5R



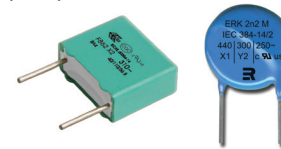
4 AC LINE FILTER
SS, SU, SC



5 TRANSFORMER
CUSTOM



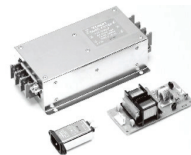
6 X/Y SAFETY CAP
C900, R46, R47



7 POWER INDUCTOR
MPC, CPI, HDI, PLC, MPL, MPLC, MPGH



8 FB INLET FILTER
GL-C, GL-FVP, GL-H, GL-M, DECTRON FB



9 EMI CORE
ESD



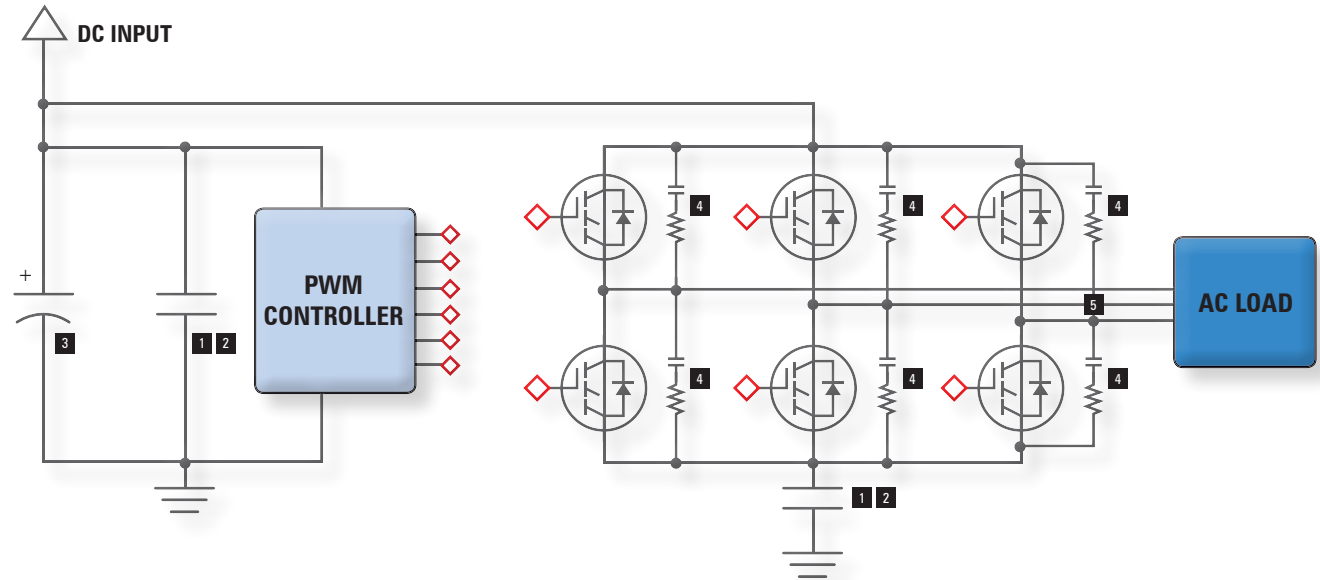
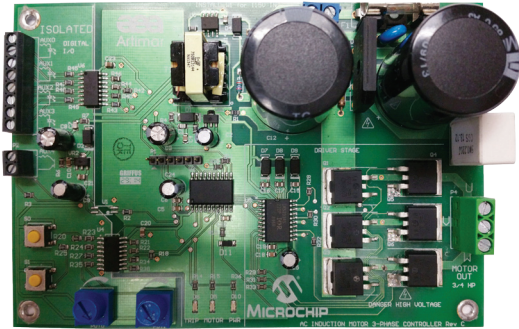
FREQUENTLY ASKED QUESTIONS

What output voltages are you using?

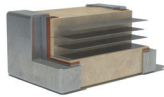
How much current for the design?

What input AC voltages?

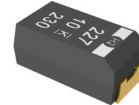
H-BRIDGE INVERTER



1 CERAMIC
X7R, X5R



2 KO-CAP®
T520, T521



3 POWER FILM
C44H, C44P, C93



4 RC SNUBBER
F43



5 CURRENT SENSOR
CT



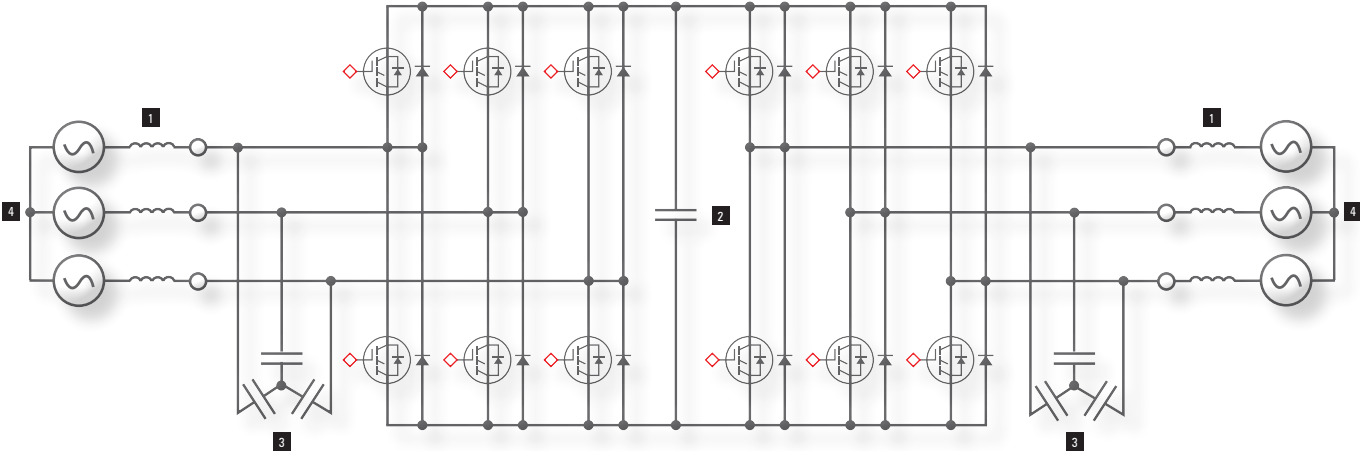
FREQUENTLY ASKED QUESTIONS

What are the input and output voltages?

What is the frequency of AC Output?

How many phases is the output?

VOLTAGE SOURCE INVERTER



1 POWER INDUCTOR

MPC, CPI, HDI, PLC, MPL, MPLC, MPGH



2 DC LINK

C4AE



3 POWER FILM

C44H, C44P, C93



4 CURRENT SENSOR

CT



FREQUENTLY ASKED QUESTIONS

What is the lifetime needed?

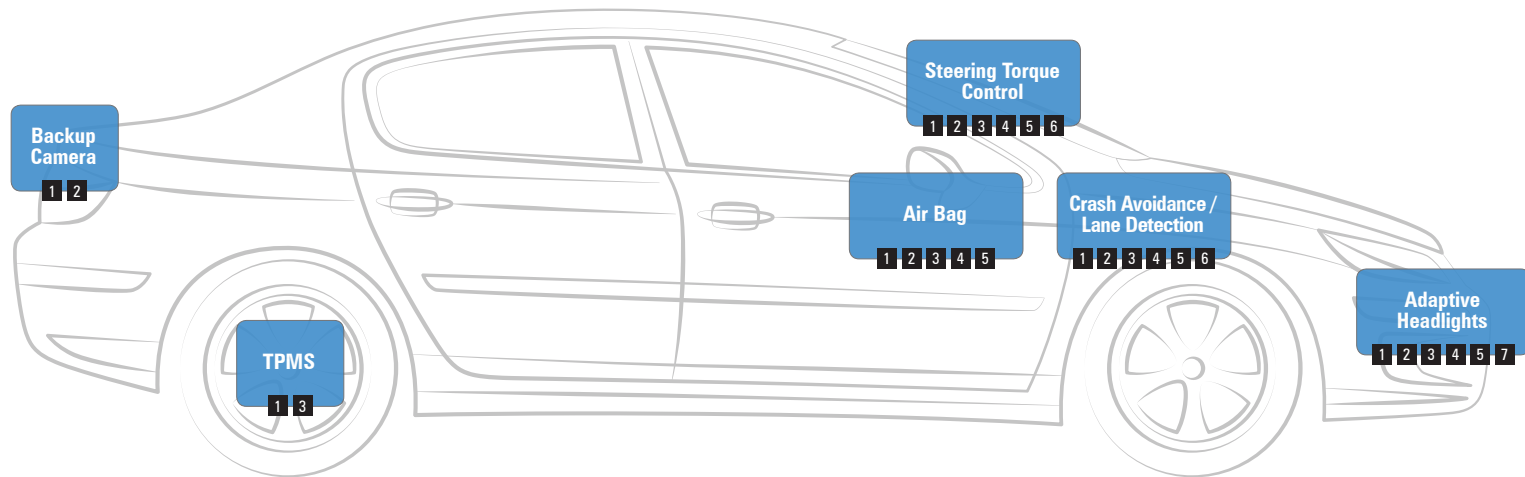
What is the operating temperature?

What is the mounting system?



Automotive Applications

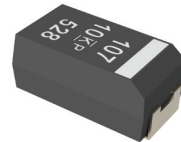
AUTOMOTIVE: SAFETY



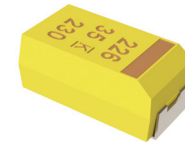
1 MLCC
COG, X7R, X5R



2 KO-CAP®
T591, T598



3 TANTALUM MnO₂
T491, T495, T498



4 SNAP-IN ALUMINUM ELECTROLYTIC
ALC10S



5 POWER INDUCTOR
DPCV



6 TOROIDIAL COIL
HHBC, PHBC



7 FILM CAPACITOR
F161, SMC, SPC



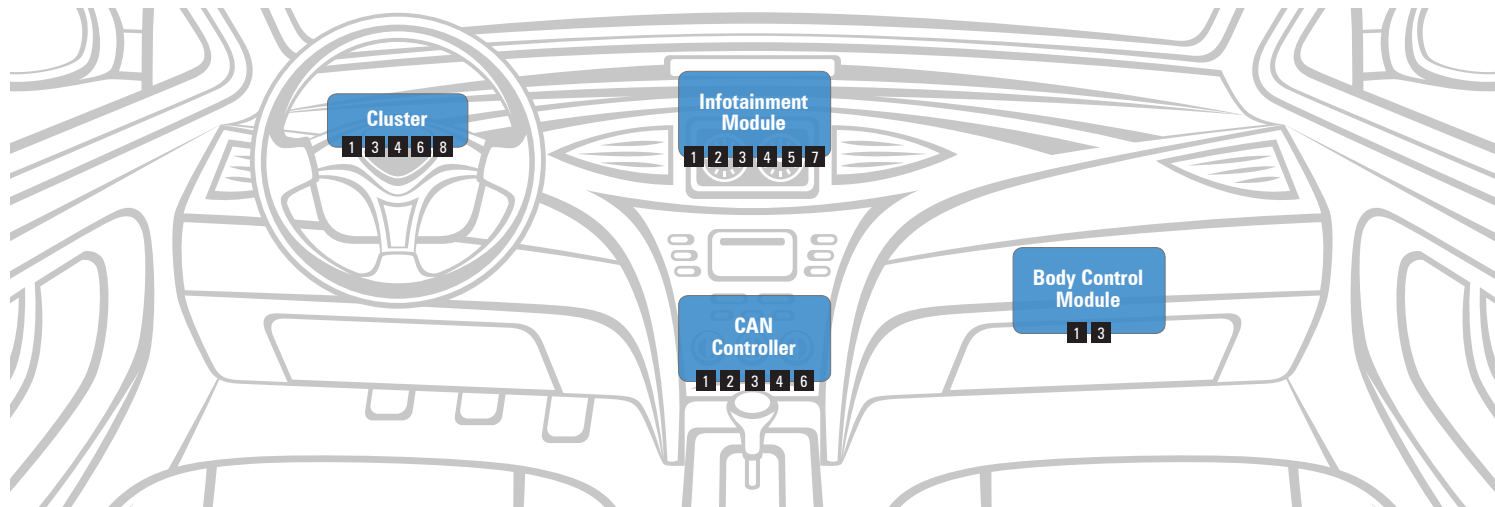
FREQUENTLY ASKED QUESTIONS

Under what conditions must the power locks and windows operate (under water)?

How many air bags does the vehicle have?

Are there any advanced driver assist systems?

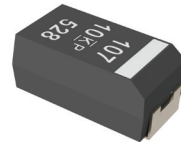
AUTOMOTIVE: INFOTAINMENT/CONTROL



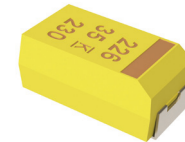
1 MLCC
COG, X7R, X5R



2 KO-CAP®
T591, T598



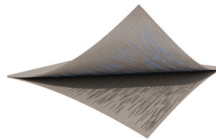
3 TANTALUM MnO₂
T491, T495, T498



4 ALUMINUM ELECTROLYTIC
EDH, EDK, ESK, ESH



5 FLEX SUPPRESSOR®
EF



6 POWER INDUCTOR
DPCV



7 TORODIAL COIL
HHBC, PHBC



8 EMI CORE
ESD



FREQUENTLY ASKED QUESTIONS

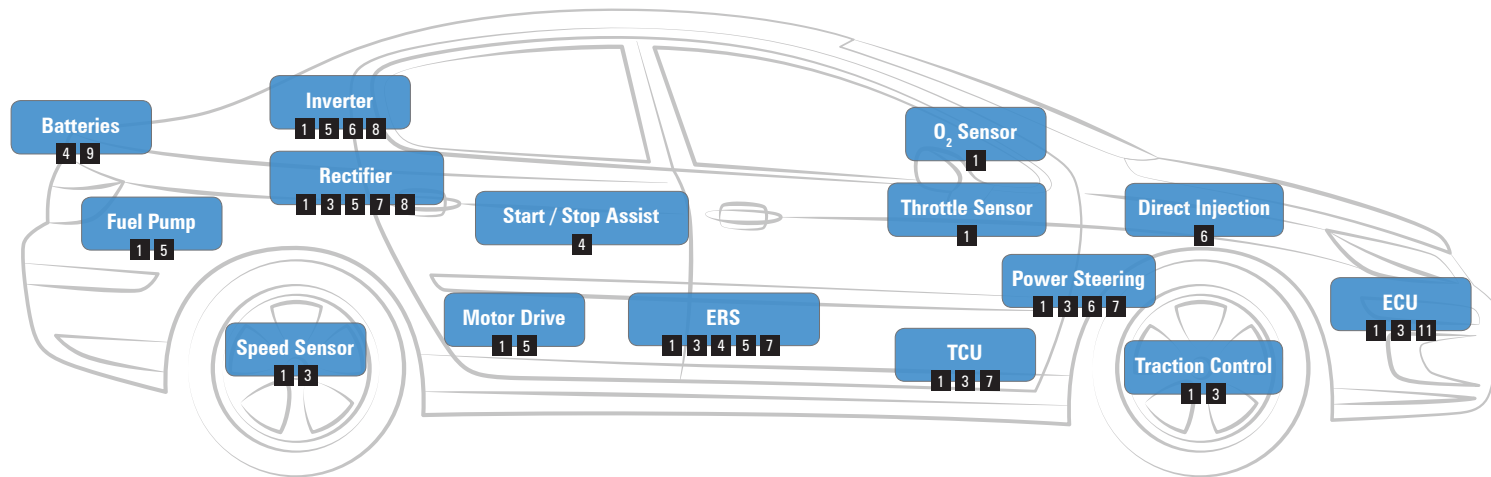
What type of user interface does the vehicle have?

What type of external sensors does the vehicle have?

What temperature ranges do the cabin components need to withstand?

Is AEC-Q200 qualification necessary?

AUTOMOTIVE: POWERTRAIN



1 MLCC
COG, X7R, X5R



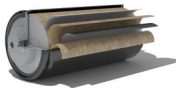
2 KO-CAP®
T591, T598



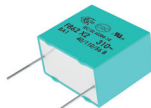
3 TANTALUM MnO₂
T491, T495, T498



4 SUPERCAPACITOR
FE, FG



5 FILM CAPACITOR
F161, SMC, SPC



6 SNAP-IN ALUMINUM ELECTROLYTIC
ALC10S



7 POWER INDUCTOR
DPCV



8 TRANSFORMER
CUSTOM



9 TORODIAL COIL
HHBC, PHBC



10 AC LINE FILTER
SS, SU, SC



11 EMI CORE
ESD



FREQUENTLY ASKED QUESTIONS

Is this vehicle a hybrid or electrical?

What emissions standards does this vehicle need to meet?

Is this going to be marketed as a luxury vehicle?



Corporate Headquarters

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Countries and Areas listed below represent KEMET operations throughout the world.

Bulgaria	Italy	South Korea
China	Japan	Sweden
Finland	Macedonia	Taiwan
Germany	Malaysia	United Kingdom
Hong Kong	Mexico	USA
India	Portugal	
Indonesia	Singapore	