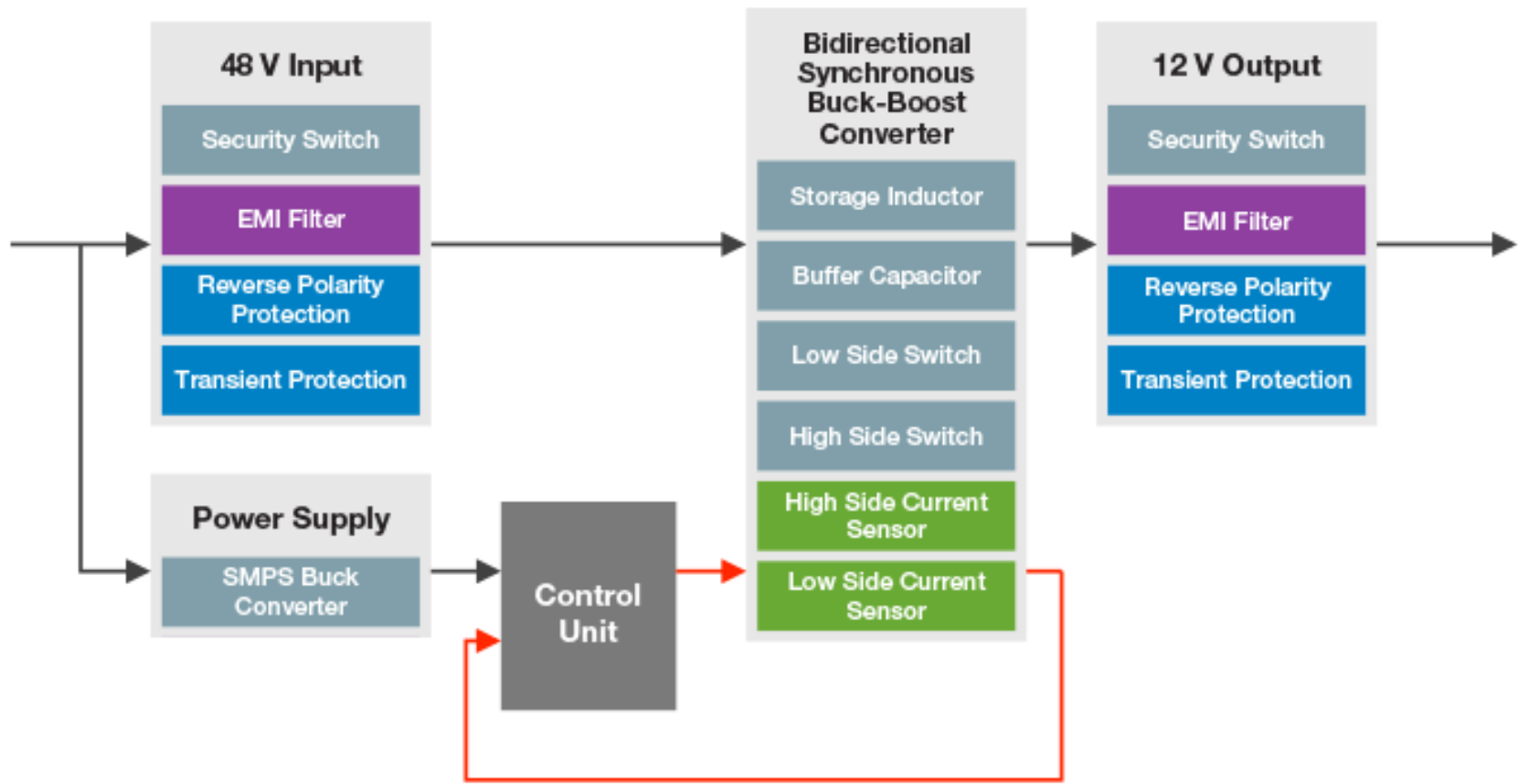


# 48V/12V DC-DC Converter - Block Diagram



# 48V/12V DC-DC Converter - Parts

## 48V INPUT - SECURITY SWITCH

### MOSFET

Product Name	Status	Description	Features	Package	Q-Level
SQJQ410EL		N-Channel 100-V (D-S) 175°C MOSFET	Rdson=3.4mOhm	PPAK 8x8L	AECQ101

## 48V INPUT - EMI FILTER

### AL CAP

Product Name	Status	Description	Features	Package	Q-Level
260 CLA-V		Alumimum Capacitor SMD vibration proof high temperature	150...3300uF; 16V...80V	16x16x16 18x18x21	

### CUSTOM MAGNETICS

Product Name	Status	Description	Features	Package	Q-Level
customized EMI filter		customized EMI filter			

### MLCC

Product Name	Status	Description	Features	Package	Q-Level
VJ...31X RoHS Automotive MLCC		SMD MLCC for Automotive Applications	120pF...1uF; 16V...1000V	0402 to 1812	

## 48V INPUT - REVERSE POLARITY PROTECTION

### MOSFET

Product Name	Status	Description	Features	Package	Q-Level
SQJQ410EL		N-Channel 100-V (D-S) 175°C MOSFET	Rdson=3.4mOhm	PPAK 8x8L	AECQ101

# 48V/12V DC-DC Converter - Parts

## 48V INPUT - TRANSIENT PROTECTION

### TVS DIODE

Product Name	Status	Description	Features	Package	Q-Level
1.5 SMC Series		surface mounteTransZorb Transient Voltage Suppressor	1500W	SMCJ	

## POWER SUPPLY - SMPS BUCK CONVERTER

### INDUCTORS

Product Name	Status	Description	Features	Package	Q-Level
IHLP2020CZ-5A		Low Profile, High Current, High Transient Current Spike Cabable Shielded, Low DCR	0,1uH...10uH, Idc=25A...2.25A	2020	AECQ200
IHLP2525CZ-5A		Low Profile, High Current, High Transient Current Spike Cabable, Shielded, Low DCR	0,1uH...4.7uH, Idc=18A...3A	2525	AECQ200

### MOSFET

Product Name	Status	Description	Features	Package	Q-Level
SQJQ480E		N-Channel 80-V (D-S) 175°C MOSFET	Rdson=3.4mOhm	PPAK 8x8L	AECQ101

### SCHOTTKY DIODE

Product Name	Status	Description	Features	Package	Q-Level
SS2P4		High Current Density Surface Mount Schottky Barrier Rectifier	If=2A; Vf=0.5V; Vrrm=40V	DO-220AA (SMP)	AECQ101

# 48V/12V DC-DC Converter - Parts

## BI DIRECTIONAL SYNCHRONOUS BUCK BOOST CONVERTER - STORAGE INDUCTOR

### CUSTOM MAGNETICS

Product Name	Status	Description	Features	Package	Q-Level
custom magnetics		customized coupled inductor			

### INDUCTORS

Product Name	Status	Description	Features	Package	Q-Level
IHLP-6767GZ-5A		Low Profile, High Current High Transient Current Spike Capable Shielded, Low DCR	0,47uH...47uH Idc=65A...7.25A	6767	AECQ200
IHLP-8787MZ-5A		Low Profile, High Current, High Transient Current Spike Capable, Shielded, Low DCR	0,47uH...100uH Idc=80A...9.1A	8787	AECQ200

## BI DIRECTIONAL SYNCHRONOUS BUCK BOOST CONVERTER - BUFFER CAPACITOR

### AL CAP

Product Name	Status	Description	Features	Package	Q-Level
260 CLA-V		Aluminum Capacitor SMD vibration proof high temperature	150...3300uF 16V...80V	16x16x16 to 18x18x21	AECQ200

## BI DIRECTIONAL SYNCHRONOUS BUCK BOOST CONVERTER - LOW SIDE SWITCH

### MOSFET

Product Name	Status	Description	Features	Package	Q-Level
SQJQ100E		N-Channel 40-V (D-S) 175°C MOSFET	Rdson=1.4mOhm	PPAK 8x8L	AECQ101

# 48V/12V DC-DC Converter - Parts

## BI DIRECTIONAL SYNCHRONOUS BUCK BOOST CONVERTER - HIGH SIDE SWITCH

### MOSFET

Product Name	Status	Description	Features	Package	Q-Level
SQJQ480E		N-Channel 80-V (D-S) 175°C MOSFET	Rdson=3.4mOhm	PPAK 8x8L	AECQ101

## BI DIRECTIONAL SYNCHRONOUS BUCK BOOST CONVERTER - HIGH SIDE CURRENT SENSOR

### SHUNT

Product Name	Status	Description	Features	Package	Q-Level
WSLP2726		Power metal strip resistor very high power	0.3mOhm...4mOhm	2726	AECQ200

## BI DIRECTIONAL SYNCHRONOUS BUCK BOOST CONVERTER - LOW SIDE CURRENT SENSOR

### SHUNT

Product Name	Status	Description	Features	Package	Q-Level
WSK1216		Power metal strip resistor, very high power	0.5mOhm...1mOhm	1216	

## 12V OUTPUT - SECURITY SWITCH

### MOSFET

Product Name	Status	Description	Features	Package	Q-Level
SQJQ402E		N-Channel 40-V (D-S) 175°C MOSFET	Rdson=1.7mOhm	PPAK 8x8L	AECQ101

# 48V/12V DC-DC Converter - Parts

## 12V OUTPUT - EMI FILTER

### AL CAP

Product Name	Status	Description	Features	Package	Q-Level
260 CLA-V		Aluminum Capacitor SMD vibration proof high temperature	150...3300uF 16V...80V	16x16x16 to 18x18x21	AECQ200

### INDUCTORS

Product Name	Status	Description	Features	Package	Q-Level
IHLP-3232DZ-5A		Low Profile, High Current High Transient Current Spike Capable, Shielded, Low DCR	0,22uH...33uH, Idc=36A...3.1A	3232	AECQ200
IHLP-4040DZ-5A		Low Profile, High Current, High Transient Current Spike Capable Shielded, Low DCR	0,47uH...47uH, Idc=30A...2.5A	4040	AECQ200

### MLCC

Product Name	Status	Description	Features	Package	Q-Level
VJ...31X RoHS Automotive MLCC		SMD MLCC for Automotive Applications	120pF...1uF 16V...1000V	0402 to 1812	AECQ200

## 12V OUTPUT - REVERSE POLARITY PROTECTION

### MOSFET

Product Name	Status	Description	Features	Package	Q-Level
SQJQ402E		N-Channel 40-V (D-S) 175°C MOSFET	Rdson=1.7mOhm	PPAK 8x8L	AECQ101

## 12V OUTPUT - TRANSIENT PROTECTION

### TVS DIODE

Product Name	Status	Description	Features	Package	Q-Level
TPSMP6.8 thru TPSMP43A		surface mounteTransZorb Transient Voltage Suppressor	250W	SMP	AECQ101