

Integrated Starter Generator - NEW

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Integrated Starter Generator - NEW

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Application Overview

Car manufacturers are working to reduce fuel consumption and emissions as the limits are decreased by the authorities. Therefore the integration of 48V Boardnet is the next step to optimize the efficiency of cars. The "Integrated Starter Generator" (ISG) replaces the starter motor and alternator. Installed between the engine and gearbox the ISG supplies power to save fuel as the engine has not to work on its own. Vishay offers you a broad portfolio of solutions like packaged or bare die MOSFETs, Diodes, Resistors, Capacitors and Inductors.

Integrated Starter Generator - NEW : Control Unit, Circuit Protection

Resistor

Product Name	Status	Description	Features	Package	Q-Level
D/CRCW-IF e3		Pulse Proof Thick Film Resistors	1Ω to 100KΩ ; 5 to 10% ; 200 ppm	0402 ... 2512	

Zener diode

Product Name	Status	Description	Features	Package	Q-Level
BZX84C-HE3		Small Signal Zener Diode	2,4 to 75V ; 2 to 5 mA ; 300 mW	SOT-23	
MMSZ52xx-HE3		Small Signal Zener Diode	3,3 to 75V ; 1,7 to 20 mA ; 500 mW	SOD-123	

Integrated Starter Generator - NEW : Control Unit, EMI-Filter

MLCC

Product Name	Status	Description	Features	Package	Q-Level
VJ...31X RoHs Automotive MLCC		Surface Mount Multilayer Ceramic Chip Capacitors fo Auto for Automotive Applications	COG, X7R, X8R;1pF to 1µF;16 to 3kV	0402 ... 1812	

Integrated Starter Generator - NEW : Control Unit, Sensor System

NTC

Product Name	Status	Description	Features	Package	Q-Level
NTCS0603E3...T		Glass Protected NTC Thermistors	2Ω to 100KΩ ; 1 to 5% ; 3420 to 4100 K	0603	

Resistor

Product Name	Status	Description	Features	Package	Q-Level
MCx-AT		Precision Thin Film Chip Resistor	47Ω to 1MΩ; 0,1% ; 10 to 25 ppm/°C	0402 ... 1206	
PATxxx		Precision Automotive Thin Film Chip Resistor Tantalum Nitrite Resistor Film	1Ω to 1MΩ; 0,1% to 1% ; 25 to 100 ppm/°C	0402 ... 2512	

Integrated Starter Generator - NEW : Control Unit, SMPS Buck Converter

Diode

Product Name	Status	Description	Features	Package	Q-Level
BAS16-HE3		Small Signal Fast Switching Diode	If=150mA; Vf=1,25V ; Vrrm=75V	SOT-23	

Inductor

Product Name	Status	Description	Features	Package	Q-Level
IHLP2525 1A		Low Profile, High Current Shielded Inductor	1 to 22 μ H ; 2,9 to 12,5A ;8 to 135 m Ω	2525	
IHLP2525 5A		Low Profile, High Current Shielded Inductor, 155°C	0,47 to 22 μ H ; 2,8 to 20A ;4 to 174 m Ω	2525	
IHLP4040 5A		Low Profile, High Current Shielded Inductor, 155°C	0,47 to 47 μ H ; 2,5 to 30A ;1,55 to 178 m Ω	4040	

MOSFET

Product Name	Status	Description	Features	Package	Q-Level
SQJ402EP		Automotive N-channel 100V (D-S) 175°C MOSFET	Rdson = 11 m Ω ; ID = 32A	PowerPAK SO-8L single	

Schottky diode

Product Name	Status	Description	Features	Package	Q-Level
SS1H10HE3		High Current Density Surface Mount Schottky Rectifier	If=1A; Vf=0,62V; Vrrm=100V	DO241AC (SMA)	
SSA34HE3		High Current Density Surface Mount Schottky Rectifier	If=3A; Vf=0,42V; Vrrm=40V	DO241AC (SMA)	
VSSA210HM3	NEW	High Current Density Surface Mount Schottky Rectifier	If=2A; Vf=0,56V; Vrrm=40V	DO241AC (SMA)	

Integrated Starter Generator - NEW : DC-Link, DC-Link

DC-Link Capacitor

Product Name	Status	Description	Features	Package	Q-Level
MKT1820		DC Film Capacitor, MKT Radial Potted Type	100pF to 560µF; 5 to 20% ; 63 to 1000VDC	Radial	

Integrated Starter Generator - NEW : DC-Link, Filter

Inductor

Product Name	Status	Description	Features	Package	Q-Level
Custom Magnetics		High Current, High Temperature radial Inductors		Radial	
IHLP8585-8787MZ-5A		Low Profile, High Current Shielded Inductor, 155°C	0,47 to 100µH ; 9 to 80A ;0,67 to 39,4 mΩ	8787	

Integrated Starter Generator - NEW : Inverter, Driver

Resistor

Product Name	Status	Description	Features	Package	Q-Level
IGBR	NEW	Thin Film, High Power Back-Contact Resistor	3Ω to 25Ω ; 5 to 25% ; 500 ppm/°C ; 75V	0202 to 0808	

Integrated Starter Generator - NEW : Inverter, Full bridge

MOSFET

Product Name	Status	Description	Features	Package	Q-Level
SQC...KGD		Automotive N-channel 80 to 100V (D-S) 175°C MOSFET	Rdson<1 mΩ; VDS =80 to 100V ;Id = 500 to 800 A	Bare die	

Integrated Starter Generator - NEW : Inverter, Temperature Sensor

NTC

Product Name	Status	Description	Features	Package	Q-Level
NTCC.00E4	NEW	Leadless NTC Thermistor Die Suitable For Wire Bounding	4,7 Ω to 20K Ω ; 1 to 5% ; 3435 to 3865 K	2 mm x 2 mm	

Integrated Starter Generator - NEW : Sensor, Current sensor

Shunt Resistor

Product Name	Status	Description	Features	Package	Q-Level
WSLP3921		Power Metal Strip Shunt Resistor, Very High Power, Very Low Value, smd	0,2 Ω to 4 m Ω ; Up to 10W 1 and 5% ; Down to 75 ppm/ $^{\circ}$ C	3921, 5931	
WSMS2908		Power Metal Strip Meter Shunt Resistor, Very Low Value	50 $\mu\Omega$ to 1000 $\mu\Omega$ 3W ; 5% ; Down to 175 ppm/ $^{\circ}$ C	2908	