Littelfuse®

Expertise Applied | Answers Delivered

Silicon Carbide MOSFETs and Schottky Barrier Diodes

Selection Guide

Meet the new SiC MOSFETs and Diodes your power architecture has been waiting for

SiC MOSFETs

Littelfuse introduces its latest Silicon Carbide MOSFETs series. Available in standard discrete through hole and SMT package and in Littelfuse's proprietary high-performance isolated packages.

Applications

- Energy storage systems
- Renewable energy systems
- Switched-mode power supplies
- Industrial process power supplies
- Servers and data centers
- Switched-mode power supplies

Features

- 600 V & 1200 V blocking voltage with low $R_{DS(on)}$
- SiC MOSFET technology with –3/15 V..18 V gate drive
- Low gate charge and low capacitance
- Ultra-fast intrinsic body diode
- Kelvin source connection
- Competitive Q_{oss} x $1/R_{DS(on)}$ Figure of merit (FOM)

Benefits

- High blocking voltage and low conduction losses
- Compatible with commercial gate drivers
- High switching speed with low losses
- Suitable for hard-switching
- Optimized gate control
- Competitive cost-performance index


ISO247-3L


ISO247-4L


TO247-4L


TO263-7L


TOLL

Part Number	Features	Voltage Class	$R_{DS(on)}$	I_{D25}	Package	Availability
IXSH20N120L2KHV	Kelvin source	1200 V	160 mΩ	20 A	TO247-4L	Released
IXSH40N120L2KHV	Kelvin source	1200 V	80 mΩ	40 A	TO247-4L	Released
IXSH65N120L2KHV	Kelvin source	1200 V	40 mΩ	65 A	TO247-4L	Released
IXSH80N120L2KHV	Kelvin source	1200 V	30 mΩ	80 A	TO247-4L	Released
IXSA20N120L2-7	Kelvin source	1200 V	160 mΩ	20 A	TO263-7L	Released
IXSA40N120L2-7	Kelvin source	1200 V	80 mΩ	40 A	TO263-7L	Released
IXSA65N120L2-7	Kelvin source	1200 V	40 mΩ	65 A	TO263-7L	Released
IXSA80N120L2-7	Kelvin source	1200 V	30 mΩ	80 A	TO263-7L	Released
IXSJ80N120R1	Isolated	1200 V	18 mΩ	80 A	ISO247-3L	Released
IXSJ43N120R1	Isolated	1200 V	36 mΩ	43 A	ISO247-3L	Released
IXSJ25N120R1	Isolated	1200 V	62 mΩ	25 A	ISO247-3L	Released
IXSJ80N120R1K	Isolated, Kelvin source	1200 V	18 mΩ	80 A	ISO247-4L	Released
IXSJ43N120R1K	Isolated, Kelvin source	1200 V	36 mΩ	43 A	ISO247-4L	Released
IXSJ25N120R1K	Isolated, Kelvin source	1200 V	62 mΩ	25 A	ISO247-4L	Release November / Sampling
IXSH150N120L3KHV	Kelvin source	1200 V	13 mΩ	150 A	TO247-4L	Q4 2025
IXSH110N120L3KHV	Kelvin source	1200 V	18 mΩ	110 A	TO247-4L	Q4 2025
IXSH100N120L3KHV	Kelvin source	1200 V	21 mΩ	100 A	TO247-4L	Q4 2025
IXSH65N120L3KHV	Kelvin source	1200 V	35 mΩ	65 A	TO247-4L	Q4 2025
IXSH50N120L3KHV	Kelvin source	1200 V	55 mΩ	50 A	TO247-4L	Q4 2025
IXSH100N65L2KHV	Kelvin source	650 V	25 mΩ	100 A	TO247-4L	Released
IXSH60N65L2KHV	Kelvin source	650 V	40 mΩ	60 A	TO247-4L	Released
IXSH40N65L2KHV	Kelvin source	650 V	60 mΩ	40 A	TO247-4L	Released

Part Number	Features	Voltage Class	$R_{DS(on)}$	I_{D25}	Package	Availability
IXSA110N65L2-7	Kelvin source	650 V	25 mΩ	110 A	TO263-7L	Released
IXSA60N65L2-7	Kelvin source	650 V	40 mΩ	60 A	TO263-7L	Released
IXSA40N65L2-7	Kelvin source	650 V	60 mΩ	40 A	TO263-7L	Released
IXSG110N65L2K	Kelvin source	650 V	25 mΩ	110 A	TOLL	Released
IXSG60N65L2K	Kelvin source	650 V	40 mΩ	60 A	TOLL	Released
IXSG40N65L2K	Kelvin source	650 V	60 mΩ	40 A	TOLL	Released

Note: Schedule and specification of non-released devices subject to change

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SiC Schottky Diodes

Littelfuse also introduces a new SiC Schottky barrier diode family. Available in single, common cathode, parallel and bridge configurations available in standard discrete thorough hole, SMT and Littelfuse's proprietary high-performance isolated packages.

Applications

- Switched-mode power supplies
- Power factor correction
- Solar inverters
- Server/telecom power supplies
- UPS

Features

- High surge current capacity
- Extremely fast, temperature-independent switching behavior
- Virtually zero reverse recovery current
- Low forward voltage drop
- Maximum virtual junction temperature of 175 °C

Benefits

- Improved operational reliability under transient events
- Suitable for high frequency switching applications
- Reduced colling effort
- Increased system power density
- Improved system efficiency and reducing conduction loss
- Enhanced performance in high temperature environments


ISOPLUS i4-PAC


SOT-227B


TO247-3L


TO252-2L


SMPD-B


TO220-2L


TO247-2L

Part Number	Voltage Class	$I_{F(A)}$	Package	Configuration	Availability
DCK10I1200HA	1200 V	10	TO247-2L	Single	Released
DCK15I1200HA	1200 V	15	TO247-2L	Single	Released
DCK20I1200HA	1200 V	20	TO247-2L	Single	Released
DCK30I1200HA	1200 V	30	TO247-2L	Single	Released
DCK40I1200HA	1200 V	40	TO247-2L	Single	Released
DCK10I1200PA	1200 V	10	TO220-2L	Single	Released
DCK10I1200UZ	1200 V	10	TO252-2L	Single	Released
DCK20C1200HB	1200 V	20	TO247-3L	Common Cathode	Released
DCK30C1200HB	1200 V	30	TO247-3L	Common Cathode	Released
DCK40C1200HB	1200 V	40	TO247-3L	Common Cathode	Released
LSIC2SD120D10A	1200 V	10	TO263-2L	Single	Released
LSIC2SD120D20A	1200 V	20	TO263-2L	Single	Released
LSIC2SD065D10A	650 V	10	TO263-2L	Single	Released
LSIC2SD065D20A	650 V	20	TO263-2L	Single	Released
LSIC2SD065D40CC	650 V	40	TO263-2L	Common Cathode	Released
LSIC2SD065E40CCA	650 V	40	TO247-3L	Common Cathode	Released
DCK10I650PA	650 V	10	TO220-2L	Single	Released
DCK10I650HA	650 V	10	TO247-2L	Single	Released
DCK20I650HA	650 V	20	TO247-2L	Single	Released
DCK20C650HB	650 V	20	TO247-3L	Common Cathode	Released
DCK20I1200PC	1200 V	20	TO263-2L	Single	Release Q4 / Sampling
DCL30B1200LB	1200 V	20	ISOPLUS SMPD-B	Isolated, 1PH rectifier bridge	Release Q4 / Sampling
DCL15B1200FC	1200 V	10	ISOPLUS i4-PAC	Isolated, 1PH rectifier bridge	Release Q4 / Sampling

Note: Schedule and specification of non-released devices subject to change

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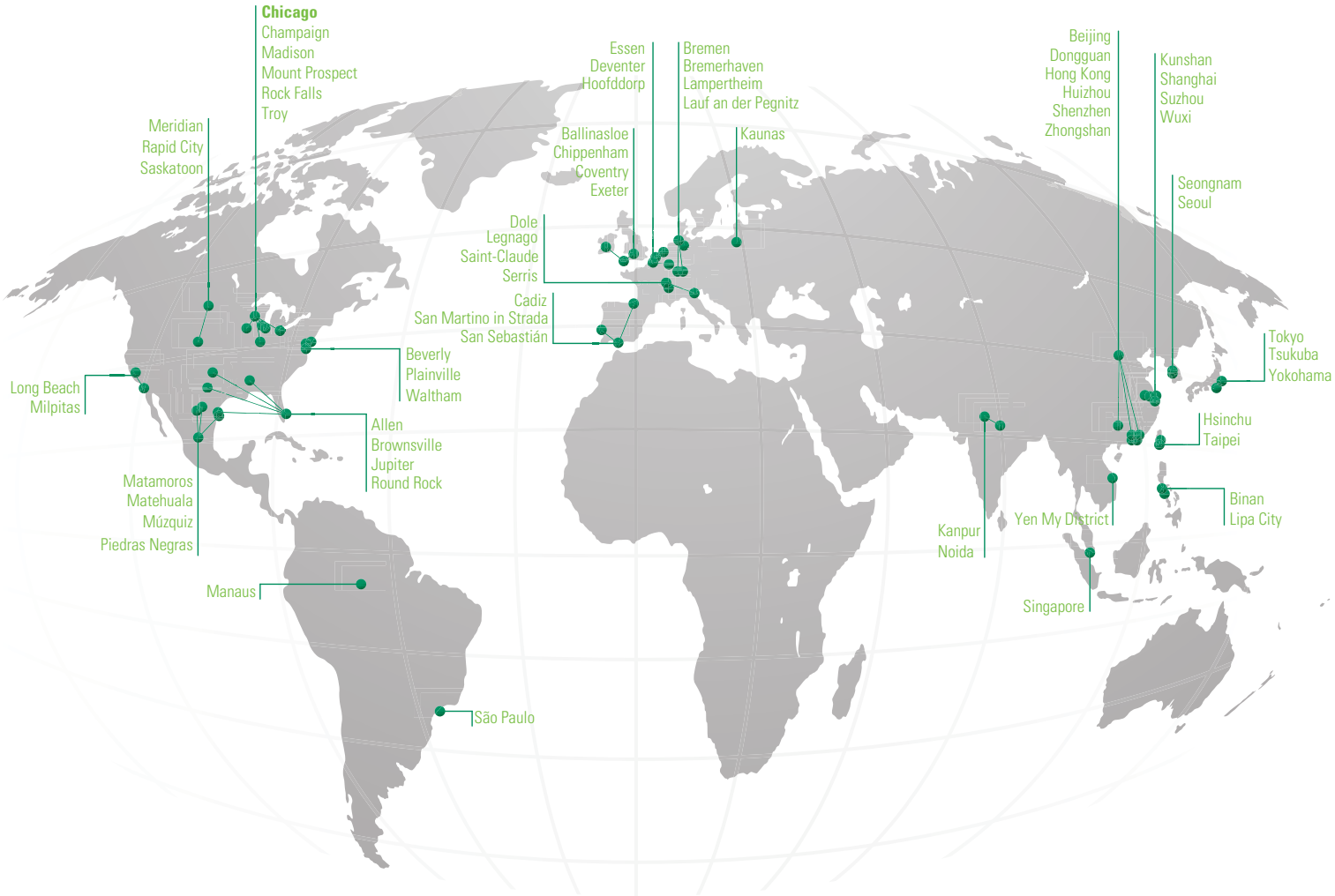

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