

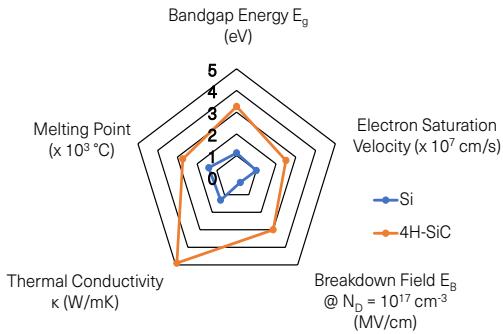
1200 V SiC MOSFETs

EMPOWERING HIGH-PERFORMANCE SYSTEMS WITH ADVANCED SiC TECHNOLOGY DELIVERING SUPERIOR EFFICIENCY AND RELIABILITY

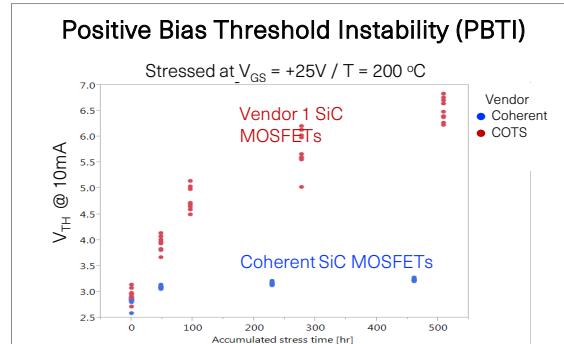
Product Brief

Coherent SiC MOSFETs, built on our advanced Gen3+ technology platform with over 20 years of expertise, deliver unmatched reliability and ruggedness. These devices are AEC-Q101 qualified at 200 °C junction temperature and are proven in AS9100-rated aerospace applications. Coherent has a diverse portfolio - bare die and packaged options including TO247-4L, TSPAK, and TO263-7L - our MOSFETs feature low $R_{DS(on)}$, superior thermal performance, and industry-leading avalanche capability, ensuring exceptional efficiency and versatility for automotive, industrial, and aerospace systems.

BENEFITS OF SiC POWER DEVICES



200 °C JUNCTION TEMPERATURE CAPABILITY



KEY FEATURES

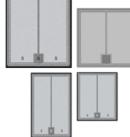
- High voltage and low $R_{DS(on)}$ up to 200 °C
- Fast switching enabled by ultra low gate resistance
- Very low, temperature invariant switching losses
- Avalanche ruggedness superior to silicon
- Fast recovery body diode for synchronous rectification
- AEC-Q101 qualified
- RoHS, REACH compliant and Pb-Free



KEY BENEFITS

- Higher system efficiency, performance and reliability
- Suitable for higher temperature and harsher environment
- Reduces cooling requirements, overall system cost and complexity
- Works in topologies with continuous hard commutation
- Increases power density
- Enables bidirectional topologies

PRODUCT PORTFOLIO

Bare die	V_{DS}	$R_{DS(on)}$	V_{th}	I_D	E_{AS}	Part number	Sample	Production
	1200 V	11.6 mΩ	2.8 V	177 A	5.3 J	TBM30116120	Available	2025
	1200 V	20 mΩ	2.8 V	108 A	3.6 J	TBM30200120A	Available	Available
	1200 V	27 mΩ	2.8 V	82 A	2.6 J	TBM30270120	Available	2025
	1200 V	39 mΩ	2.8 V	59 A	1.9 J	TBM30390120	Available	2025

TO247-4L	V_{DS}	$R_{DS(on)}$	$R_{th,JC}$	I_D	E_{AS}	Part number	Sample	Production
	1200 V	12 mΩ	0.13 °C/W	171 A	5.3 J	TM3B0012120	Available	2025
	1200 V	20 mΩ	0.22 °C/W	115 A	3.6 J	TM3B0020120A	Available	Available
	1200 V	27 mΩ	0.28 °C/W	86 A	2.6 J	TM3B0027120	Available	2025
	1200 V	39 mΩ	0.38 °C/W	61 A	1.9 J	TM3B0039120	Available	2025

TSPAK	V_{DS}	$R_{DS(on)}$	$R_{th,JC}$	I_D	E_{AS}	Part number	Sample	Production
	1200 V	12 mΩ	0.13 °C/W	171 A	5.3 J	TM3M0012120	2025	2026
	1200 V	20 mΩ	0.22 °C/W	115 A	3.6 J	TM3M0020120	2025	2025

TO263-7L	V_{DS}	$R_{DS(on)}$	$R_{th,JC}$	I_D	E_{AS}	Part number	Sample	Production
	1200 V	27 mΩ	0.28 °C/W	86 A	2.6 J	TM3E0027120	2025	2025
	1200 V	39 mΩ	0.38 °C/W	61 A	1.9 J	TM3E0039120	Available	2025

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