

SiC Product Portfolio



August 2024



Up to 6.5 kV

Largest range of SiC FETs & diodes
(650 V to 6.5 kV)

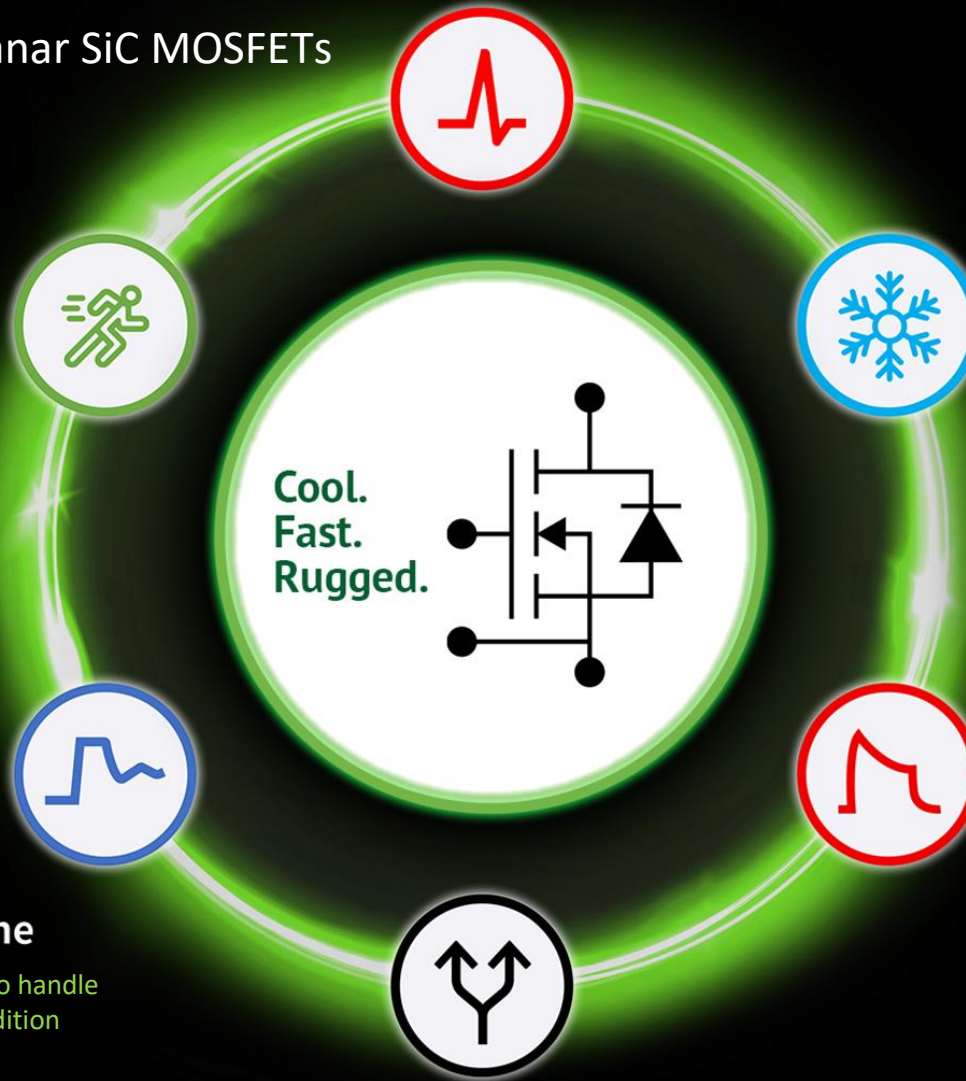
Fast Switching
Highest efficiency hard-switch, soft-switch
(Lowest E_{ON} , E_{OFF} , E_{ZVS} losses)

Cool Operation
Lowest $R_{DS(ON)}$ at high temperature
(25% lower than industry typical)

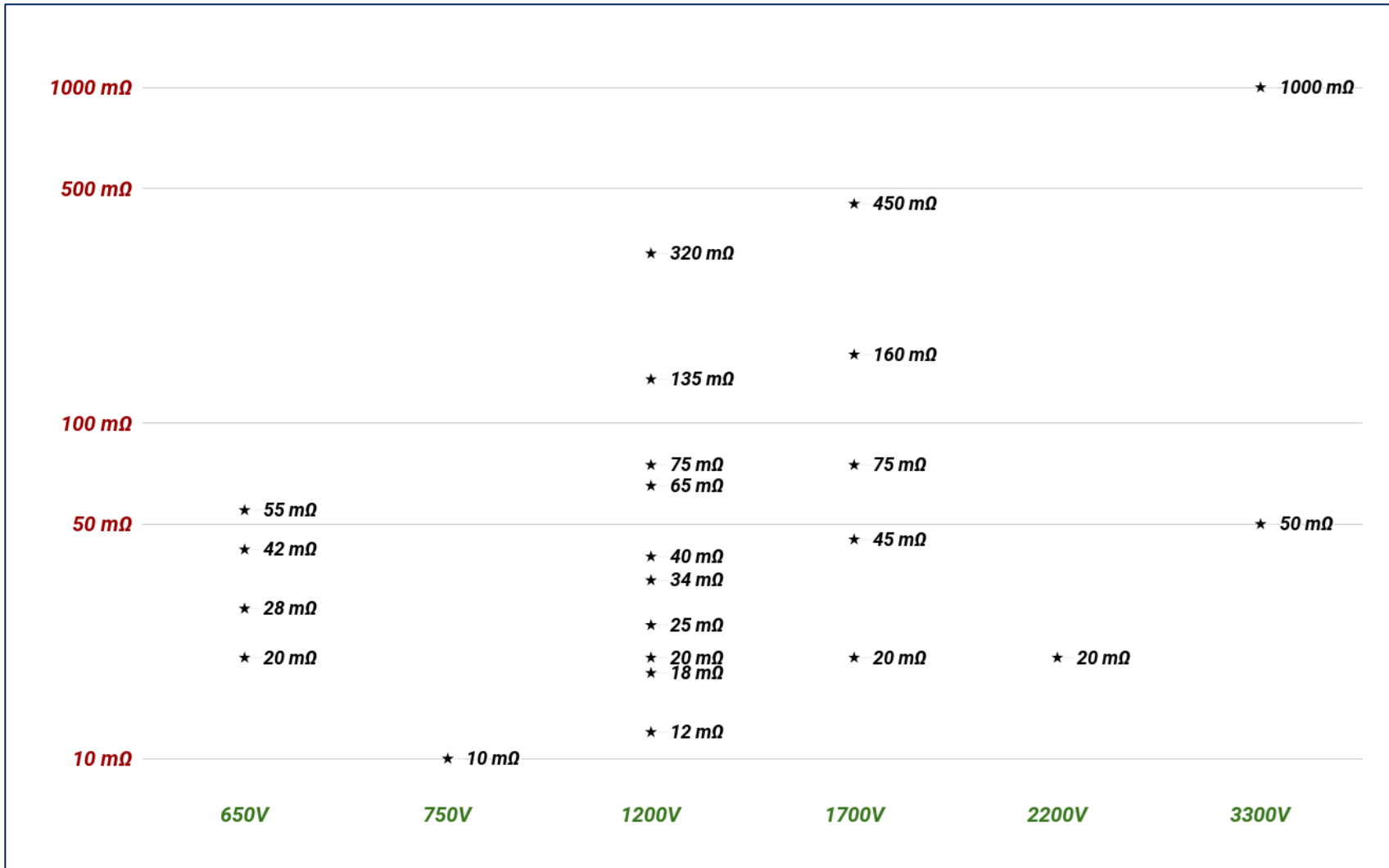
100%-Tested Robust Avalanche
Highest published capability to handle excess energy in fault condition

Long Short-Circuit Withstand Time
World-class survival duration in fault condition

High-Power Paralleling
Matching currents
(Stable V_{TH})



Broadest SiC MOSFET Portfolio ⁽¹⁾



- ✓ SiC Discrete
- ✓ SiC Bare Dice
- ✓ SiC Power Modules



Note (1): based on GeneSiC voltage range of production released SiC MOSFETs compared to all publicly identified voltage ranges of other SiC suppliers.

650V-750V SiC MOSFETs



$R_{DS(ON)}$ @ $V_G = 18V$	TOLL	TO-263-7 (HV) (D2PAK-7L)	TO-247-3	TO-247-4 (HV)
750V 10 mΩ				Engineering Sample 
650V 20 mΩ	G3F25MT06L 	G3F25MT06J 		G3F25MT06K 
650V 28 mΩ	G3F33MT06L 	G3F33MT06J 		G3F33MT06K 
650V 42 mΩ	G3F45MT06L 	G3F45MT06J 	G3F45MT06D	G3F45MT06K 
650V 55 mΩ	G3F60MT06L 	G3F60MT06J 	G3F60MT06D	G3F60MT06K 

+ Top-Side-Cooled Package

 AEC-Q101 Qualified or Planned for AEC-Q101 Qualification – Check with your sales/marketing representative for the latest update

1200V SiC MOSFETs



$R_{DS(ON)}$ @ $V_G = 18V$	TO-263-7 (HV)	TO-247-4 (HV)
18 mΩ	G3F18MT12J 	G3F18MT12K 
20 mΩ	G3F20MT12J 	G3F20MT12K 
25 mΩ	G3F25MT12J 	G3F25MT12K 
34 mΩ	G3F34MT12J 	G3F34MT12K 
40 mΩ	G3F40MT12J 	G3F40MT12K 
65 mΩ	G3F65MT12J 	G3F65MT12K 
75 mΩ	G3F75MT12J 	G3F75MT12K 
135 mΩ	G3F135MT12J 	
320 mΩ	G3F320MT12J 	

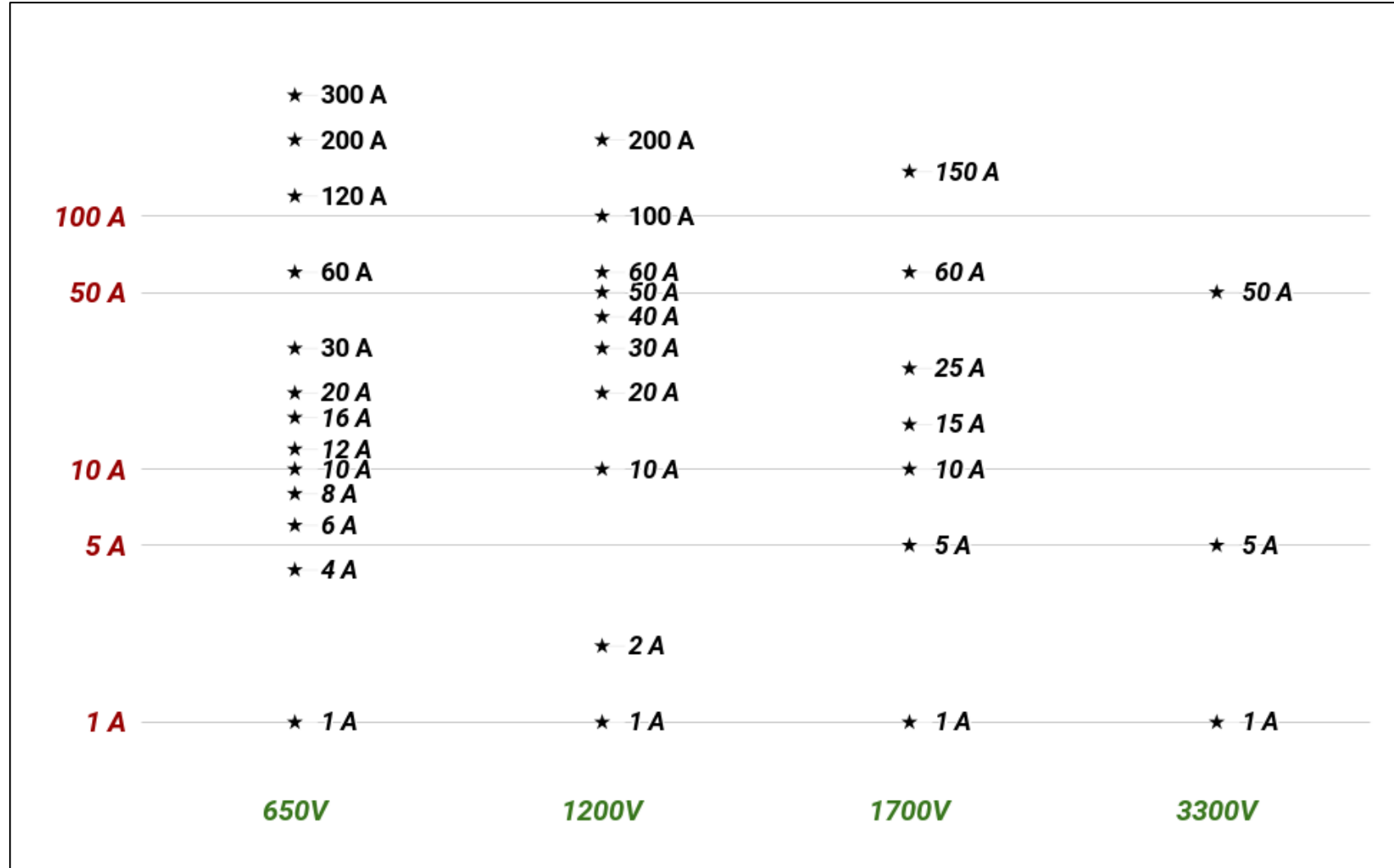
+ Top-Side-Cooled Package

 AEC-Q101 Qualified or Planned for AEC-Q101 Qualification – Check with your sales/marketing representative for the latest update

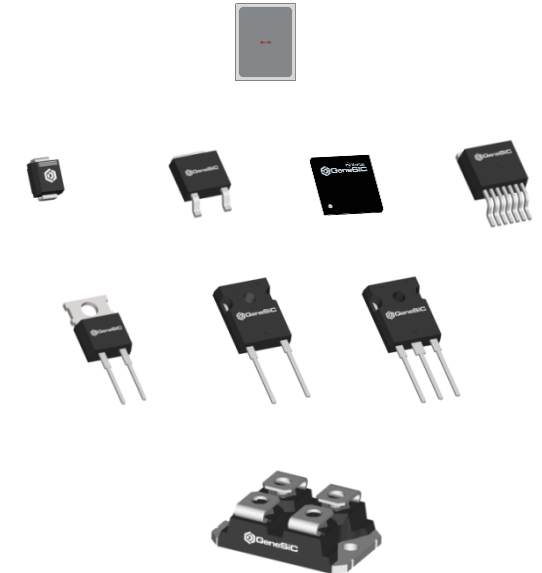


$R_{DS(ON)}$ @ $V_G = 15V$	TO-263-7 <i>(HV)</i>	TO-247-3	TO-247-4 <i>(HV)</i>	SOT-227 <i>(Isolated)</i>
20 mΩ			G3R20MT17K	G3R20MT17N
45 mΩ		G3R45MT17D	G3R45MT17K	
160 mΩ	G3R160MT17J	G3R160MT17D		
450 mΩ	G3R450MT17J	G3R450MT17D		

Broadest SiC Schottky Diode Portfolio ⁽¹⁾



- ✓ 50+ SiC Diode products
- ✓ SiC Discrete
- ✓ SiC Bare Dice
- ✓ SiC Power Modules



Note (1): based on GeneSiC voltage range of production released SiC Diodes compared to all publicly identified voltage ranges of other SiC suppliers.

650V Gen5 SiC MPS™ Diodes



I_F	DO-214 (SMB)	TO-252-2	QFN8x8	TO-263-7	TO-220-2	TO-247-2	*TO-247-3	*SOT-227 (Iso)
1 A @ $V_F = 1.5V$	GB01SLT06-214 							
4 A @ $V_F = 1.3V$		GE04MPS06E	GE04MPS06Q		GE04MPS06A			
6 A @ $V_F = 1.3V$		GE06MPS06E	GE06MPS06Q		GE06MPS06A			
8 A @ $V_F = 1.3V$		GE08MPS06E	GE08MPS06Q		GE08MPS06A		GE2X8MPS06D	
10 A @ $V_F = 1.3V$		GE10MPS06E	GE10MPS06Q		GE10MPS06A		GE2X10MPS06D	
12 A @ $V_F = 1.3V$		GE12MPS06E	GE12MPS06Q		GE12MPS06A		GE2X12MPS06D	
30 A @ $V_F = 1.5V$				GD30MPS06J	GD30MPS06A	GD30MPS06H	GD2X30MPS06D	GD2X30MPS06N
60 A @ $V_F = 1.5V$						GD60MPS06H		GD2X60MPS06N
100 A @ $V_F = 1.5V$								GD2X100MPS06N
150 A @ $V_F = 1.5V$								GD2X150MPS06N

* 2X series parts -> 2 diodes per package TO-247-3 : Common Cathode ; SOT-227 : Two Independent Diodes



AEC-Q101 Qualified or Planned for AEC-Q101 Qualification – Check with your sales/marketing representative for the latest update

1200V SiC MPS™ Diodes



I_F	DO-214 (SMB)	TO-252-2	TO-263-7 (HV)	TO-220-2	TO-247-2	*TO-247-3	*SOT-227 (Iso)
2 A @ $V_F = 1.5V$	GB02SLT12-214 	GD02MPS12E					
10 A @ $V_F = 1.5V$		GD10MPS12E		GD10MPS12A	GD10MPS12H	GD2X10MPS12D	
20 A @ $V_F = 1.5V$				GD20MPS12A	GD20MPS12H	GD2X20MPS12D	
30 A @ $V_F = 1.5V$			GD30MPS12J		GD30MPS12H	GD2X30MPS12D	
50 A @ $V_F = 1.5V$					GD50MPS12H		GD2X50MPS12N
100 A @ $V_F = 1.5V$							GD2X100MPS12N

* **2X** series parts -> 2 diodes per package **TO-247-3** : Common Cathode ; **SOT-227** : Two Independent Diodes



AEC-Q101 Qualified or Planned for AEC-Q101 Qualification – Check with your sales/marketing representative for the latest update

1700V SiC MPS™ Diodes



I_F	TO-263-7 (HV)	TO-247-2	*SOT-227 (Iso)
1 A @ $V_F = 1.6V$			
5 A @ $V_F = 1.5V$	GD05MPS17J	GD05MPS17H	
10 A @ $V_F = 1.5V$		GD10MPS17H	
15 A @ $V_F = 1.5V$		GD15MPS17H	
25 A @ $V_F = 1.5V$		GD25MPS17H	
60 A @ $V_F = 1.5V$		GD60MPS17H	
150 A @ $V_F = 1.6V$			GD2X75MPS17N

* **2X** series parts -> 2 diodes per package TO-247-3 : Common Cathode ; SOT-227 : Two Independent Diodes

SiC Bare Die Products

