

## Silicon Carbide (SiC)

**MOSFET ... EliteSiC,**  
 65 mohm, 1200 V, M3S,  
 D2PAK-7L

### NVBG070N120M3S

#### Features

- € Typ.  $R_{DS(on)} = 65\text{ m}\Omega$  @  $V_{GS} = 18\text{ V}$
- € Ultra Low Gate Charge ( $Q_{tot} = 57\text{ nC}$ )
- € High Speed Switching with Low Capacitance ( $C_{oss} = 57\text{ pF}$ )
- € 100% Avalanche Tested
- € AEC iQ101 Qualified and PPAP Capable
- € This Device is Halide Free and RoHS Compliant with exemption 7a, Pb iFree 2LI (on second level interconnection)

#### Typical Applications

- € Automotive On Board Charger
- € Automotive DC/DC Converter for EV/HEV

MAXIMUM RATINGS ( $T_J = 25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain to iSource Voltage	$V_{DSS}$	1200	V
Gate to iSource Voltage	$V_{GS}$	i10/+22	V
Recommended Operation Values $T_C < 175^\circ\text{C}$ of Gate to iSource Voltage			

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## THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Junction to Case $\theta_{JC}$			

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## TYPICAL CHARACTERISTICS



TYPICAL CHARACTERISTICS

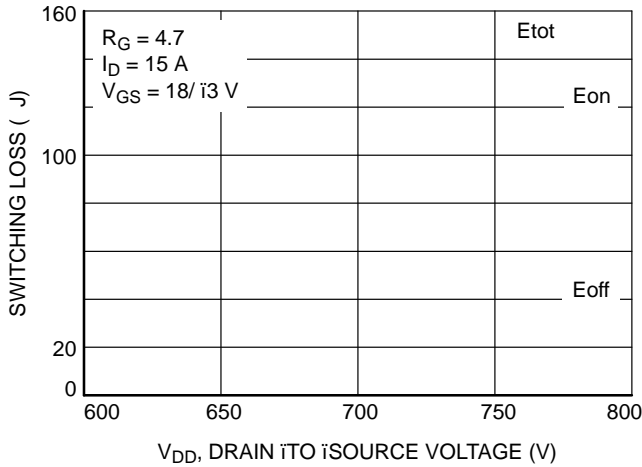


Figure 7. Switching Loss vs. Drain to Source Voltage

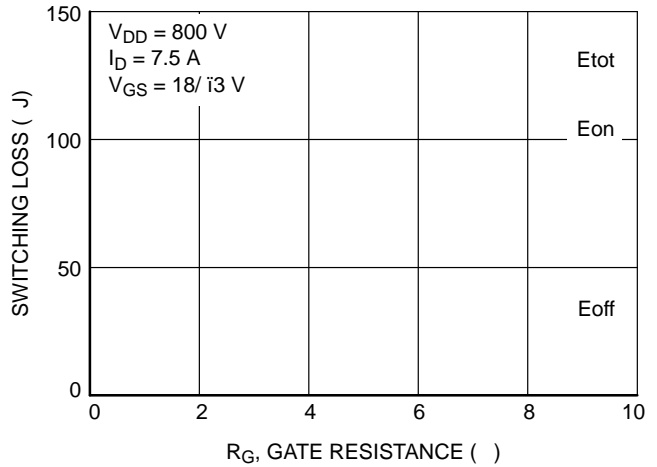


Figure 8. Switching Loss vs. Gate Resistance

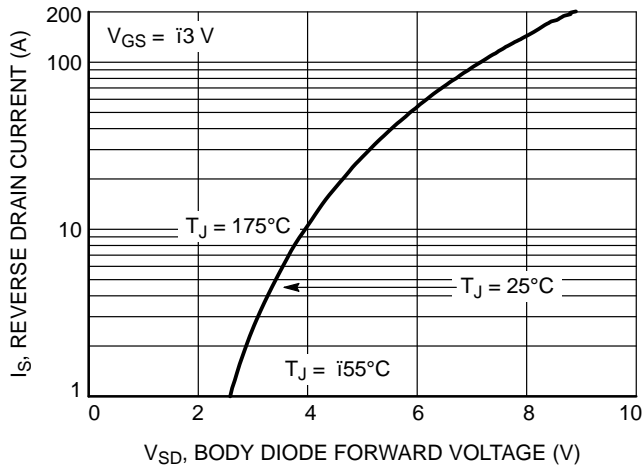


Figure 9. Reverse Drain Current vs. Body Diode Forward Voltage

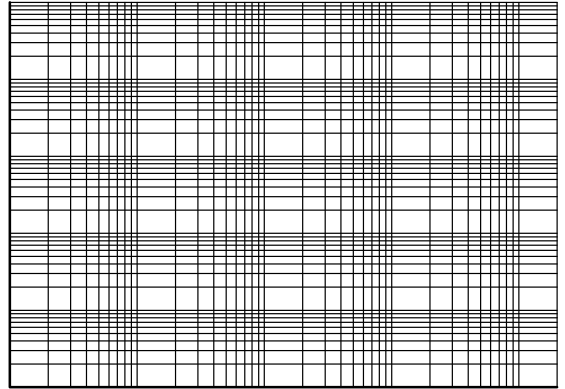
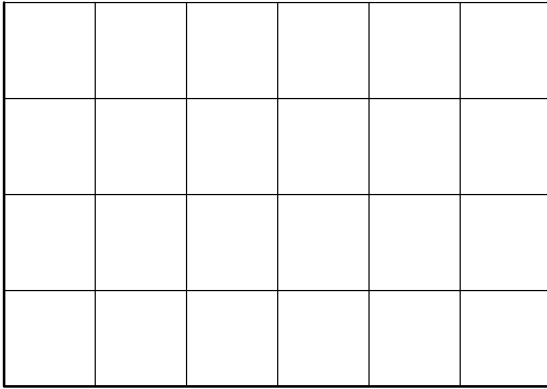
Figure 10. Gate to Source Voltage vs. Total Charge

Figure 11. Capacitance vs. Drain to Source Voltage

Figure 12. Unclamped Inductive Switching Capability

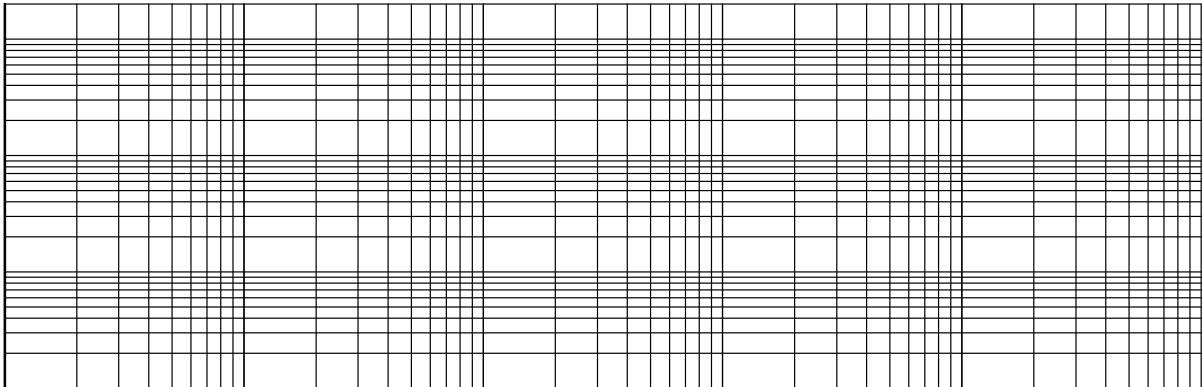
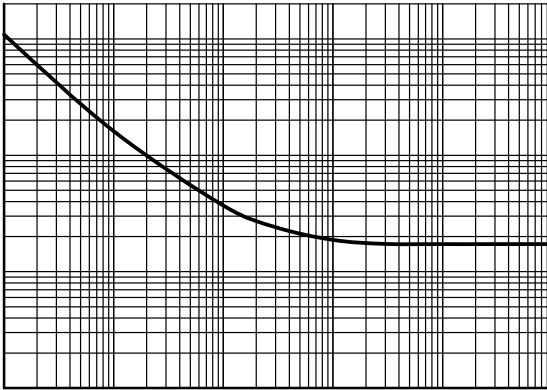
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## TYPICAL CHARACTERISTICS



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Figure 13. Maximum Continuous Drain Current vs. Case Temperature



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PACKAGE DIMENSIONS

D<sup>2</sup>PAK7 (TO 1263 17L HV)  
CASE 418BJ  
ISSUE B

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