# onse 1

# NVH4L040N120M3S

### **Table 1. THERMAL CHARACTERISTICS**

Parameter		Max	Unit
Junction-to-Case - Steady State (Note 1)		0.65	°C/W
Junction-to-Ambient - Steady State (Note 1)	$R_{ heta JA}$	40	

### **Table 2. ELECTRICAL CHARACTERISTICS** (T<sub>J</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition		Min	Тур	Max	Unit
OFF STATE CHARACTERISTICS					•		
Drain-to-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	$V_{GS} = 0 \text{ V}, I_D = 1 \text{ mA}$		1200	_	_	V
Drain-to-Source Breakdown Voltage Temperature Coefficient	V <sub>(BR)DSS</sub> /T <sub>J</sub>	I <sub>D</sub> = 1 mA, referenced to 25°C (Note 6)		-	0.3	-	V/°C
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>GS</sub> = 0 V, V <sub>DS</sub> = 1200 V		-	-	100	μΑ
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = +22/-10 V, V <sub>DS</sub> = 0 V		-	-	±1	μΑ
ON STATE CHARACTERISTICS (Note	2)				-	-	

Gate Threshold Voltage	V <sub>GS(TH)</sub>	$V_{GS} = V_{DS}$ , $I_D = 10 \text{ mA}$	2.04
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### NVH4L040N120M3S

 Table 2. ELECTRICAL CHARACTERISTICS ( $T_J = 25^{\circ}C$  unless otherwise specified) (continued)

Parameter	Symbol	Test Condition	Min	Тур	Max	Unit
SOURCE DRAIN DIODE CHARACTER	RISTICS					
Reverse Recovery Time	t <sub>RR</sub>	$V_{GS} = -3/18 \text{ V, } I_{SD} = 20 \text{ A,}$ $dI_S/dt = 1000 \text{ A/}\mu\text{s, } V_{DS} = 800 \text{ V}$ (Note 6)	-	16.8	-	ns
Reverse Recovery Charge	Q <sub>RR</sub>		-	82	-	nC
Reverse Recovery Energy	E <sub>REC</sub>		-	7.9	-	μJ
Peak Reverse Recovery Current	I <sub>RRM</sub>	1	-	9.8	_	Α
Charge Time	T <sub>A</sub>		-	9.6	-	ns
Discharge Time	T <sub>B</sub>	1	_	7.2	-	ns

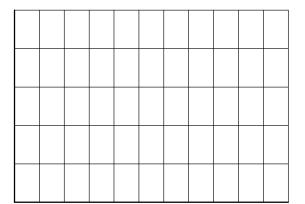
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

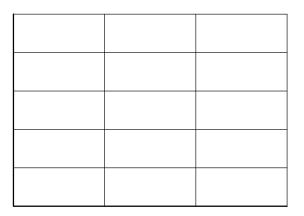
5. E<sub>ON</sub>/E<sub>OFF</sub> result is with body diode.

6. Defined by design, not subject to production test.

# NVH4L040N120M3S

# **TYPICAL CHARACTERISTICS**





TO-247-4LD CASE 340CJ ISSUE A

DATE 16 SEP 2019

Α В Øp1 D2 Α E E1 **A2** Q E/2 D1 D Ø L1 b2 **A1** b1 (3X) Ĺ 1 4 С b(4X) e1 e 2X ⊕ 0.254 M B A M

