

# Silicon Carbide (SiC) MOSFET – 13.5 mohm, 750 V, M2, TO-247-4L

## NVH4L018N075SC1

$V_{(BR)DSS}$	$R_{DS(ON) MAX}$	$I_D MAX$
750 V	18 m $\Omega$ @ 18 V	140 A

### Features

- $\Omega$
- $\Omega$
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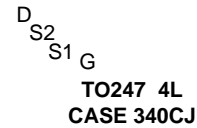
### Typical Applications

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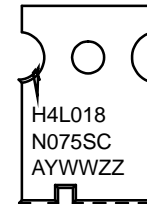
### MAXIMUM RATINGS ( $T_J = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	$V_{DSS}$	750	V
Gate-to-Source Voltage	$V_{GS}$	-8/+22	V
Recommended Operation Values $T_C < 175^\circ\text{C}$ of Gate-to-Source Voltage			

### N CHANNEL MOSFET



### MARKING DIAGRAM



H4L018N075SC = Specific Device Code  
A = Assembly Location  
Y = Year  
WW = Work Week  
ZZ = Lot Traceability

	$T_A$ °C, $p = 10 \mu\text{s}$ , $R_G = 4.7 \Omega$	$I_{DSC}$	807	A
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +175	°C	
Source Current (Body Diode)	$I_S$	108	A	
Single Pulse Drain-to-Source Avalanche Energy ( $I_{L(pk)} = 18 \text{ A}$ , $L = 1 \text{ mH}$ ) (Note 3)	$E_{AS}$	162	mJ	
Maximum Lead Temperature for Soldering (1/8" from case for 5 s)	$T_L$	300	°C	

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. The entire application environment impacts the thermal resistance values shown, they are not constants and are only valid for the particular conditions noted.
2. Repetitive rating, limited by max junction temperature.
3. EAS of 162 mJ is based on starting  $T_J = 25^\circ\text{C}$ ;  $L = 1 \text{ mH}$ ,  $I_{AS} = 18 \text{ A}$ ,  $V_{DD} = 50 \text{ V}$ ,  $V_{GS} = 18 \text{ V}$ .

### ORDERING INFORMATION

Device	Package	Shipping
NVH4L018N075SC1	TO247-4L	30 Units / Tube

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**Table 1. THERMAL RESISTANCE MAXIMUM RATINGS**

Parameter	Symbol	Max	Unit
Junction-to-Case – Steady State (Note 4)	$R_{\theta JC}$	0.3	°C/W
Junction-to-Ambient – Steady State (Notes 4)	$R_{\theta JA}$	40	

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>SOURCE DRAIN DIODE CHARACTERISTICS</b>						
Reverse Recovery Time	$t_{RR}$	$V_{GS} = -5/18\text{ V}$ , $I_{SD} = 66\text{ A}$ , $di/dt = 1000\text{ A}/\mu\text{s}$	-	28	-	ns
Reverse Recovery Charge	$Q_{RR}$		-	221	-	nC
Reverse Recovery Energy	$E_{REC}$		-	19	-	$\mu\text{J}$
Peak Reverse Recovery Current	$I_{RRM}$					

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## TYPICAL CHARACTERISTICS






TO-247-4LD  
CASE 340CJ  
ISSUE A

DATE 16 SEP 2019

A E A B  
A2 E1  $\emptyset$ p1  
D2

E/2 Q

D D1

$\emptyset$

L1

b2 A1

b1 (3X) L

1 4

e1 b(4X) c

e 2X

$\oplus$  0.254 (M) B A (M)

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