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 mΩ @ 18 V	140 A

Features

- Ω
  Ω
-
-
-
-
-

N CHANNEL MOSFET

Typical Applications

-
-
-

D
S2
S1
G

TO247 4L
CASE 340CJ

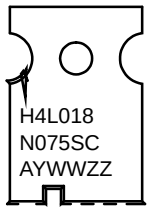
MAXIMUM RATINGS (T_J = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain−to−Source Voltage	V_{DSS}	750	V
Gate−to−Source Voltage	V_{GS}	−8/+22	V
Recommended Operation Values of Gate−to−Source Voltage	T_C < 175°C		
	T_A °C, $_p$ = 10 µs, R_G = 4.7 Ω	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 A, L = 1 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°C; L = 1 mH, I_{AS} = 18 A, V_{DD} = 50 V, V_{GS} = 18 V.

MARKING DIAGRAM



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

ORDERING INFORMATION

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

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	

Table 2. ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise specified) (continued)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
SOURCE DRAIN DIODE CHARACTERISTICS						
Reverse Recovery Time	t_{RR}	V_{GS} = −5/18 V, I_{SD} = 66 A, dI_S/dt = 1000 A/μs	–	28	–	ns
Reverse Recovery Charge	Q_{RR}		–	221	–	nC
Reverse Recovery Energy	E_{REC}		–	19	–	μJ
Peak Reverse Recovery Current	I_{RRM}					

TYPICAL CHARACTERISTICS

TO−247−4LD
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DATE 16 SEP 2019