<mark>S Ca (S C)</mark> <u>MOSFET</u> – E S C, 22 m m, 1200 V, M3S, TO-247-4L

NVH4L022N120M3S

Features

- Typ. $R_{DS(on)} = 22 \text{ m}\Omega @ V_{GS} = 18 \text{ V}$
- Ultra Low Gate Charge ($Q_{G(tot)} = 137 \text{ nC}$)
- High Speed Switching with Low Capacitance ($C_{oss} = 146 \text{ pF}$)
- 100% Avalanche Tested
- AEC–Q101 Qualified and PPAP Capable
- •

Continuous Drain Current (Mes 1, 3)	Steady State	$T_C = 25 \ ^{\circ}C$	Ι _D	89	A
Power Dissipation (Note 1)			PD	348	W
Continuous Drain Current (Notes 1, 3)	Steady State	T _C = 100°C	Ι _D	62	A
Power Dissipation (Note 1)			P _D	174	W
Pulsed Drain Current (Note 2)	= 25°C	I _{DM}	275	A	
Operating Junction and S Range	Storage Te	emperature	T _J , T _{stg}	–55 to +175	°C
Source Current (Body Di $T_C = 25^{\circ}C V_{GS} = -3 V (N)$	۱ _S	72	A		
Single Pulse Drain-to-S Energy (I _{L(pk)} = 23.1 A, L	E _{AS}	267	mJ		
Maximum Lead Tempera (1/25" from case for 10 s	ΤL	270	°C		

Table 1. THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Junction-to-Case - Steady State (Note 1)	$R_{ extsf{ heta}JC}$	0.43	°C/W
Junction-to-Ambient - Steady State (Note 1)	R_{\thetaJA}	40	

Table 2. ELECTRICAL CHARACTERISTICS (T $_J$ = 25°C unless otherwise specified)

Parameter Symbol lest Condition Min Typ Max Unit	Parameter	Symbol	Test Condition	Min	Тур	Max	Unit
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TYPICAL CHARACTERISTICS



V_{DS}, DRAIN-TO-SOURCE VOLTAGE (V)

Figure 1. On–Region Characteristics

T_J, JUNCTION TEMPERATURE (°C)

Figure 3. On–Resistance Variation with Temperature

V_{GS}, GATE-TO-SOURCE VOLTAGE (V)

Figure 5. Transfer Characteristics

I_D, DRAIN CURRENT (A)

Figure 2. Normalized On–Resistance vs. Drain Current and Gate Voltage

V_{GS}, GATE-TO-SOURCE VOLTAGE (V)

Figure 4. On–Resistance vs. Gate–to–Source Voltage



I_D, DRAIN CURRENT (A) Figure 6. Switching Loss vs. Drain Current

TYPICAL CHARACTERISTICS

TYPICAL CHARACTERISTICS (continued)



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