S ● Ca (S C) MOSFET – E S C, 22 m● m, 1200 V, M3S, TO-247-4L

NVH4L022N120M3S

Features

- Typ. $R_{DS(on)}$ = 22 mΩ @ V_{GS} = 18 V
- Ultra Low Gate Charge ($Q_{G(tot)}$ = 137 nC)
- High Speed Switching with Low Capacitance (C_{oss} = 146 pF)
- 100% Avalanche Tested
- AEC−Q101 Qualified and PPAP Capable
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Continuous Drain Current (Notes 1, 3)	Steady State	T_C = 25 °C	I_D	89	A
Power Dissipation (Note 1)			P_D	348	W
Continuous Drain Current (Notes 1, 3)	Steady State	T_C = 100°C	I_D	62	A
Power Dissipation (Note 1)			P_D	174	W
Pulsed Drain Current (Note 2)	T_C = 25°C		I_{DM}	275	A
Operating Junction and Storage Temperature Range			T_J, T_{stg}	−55 to +175	°C
Source Current (Body Diode) T_C = 25°C V_{GS} = −3 V (Note 1)			I_S	72	A
Single Pulse Drain−to−Source Avalanche Energy ($I_{L(pk)}$ = 23.1 A, L = 1 mH) (Note 4)			E_{AS}	267	mJ
Maximum Lead Temperature for Soldering (1/25″ from case for 10 s)			T_L	270	°C

Table 1. THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Junction−to−Case − Steady State (Note 1)	$R_{\theta JC}$	0.43	°C/W
Junction−to−Ambient − Steady State (Note 1)	$R_{\theta JA}$	40	

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit

TYPICAL CHARACTERISTICS

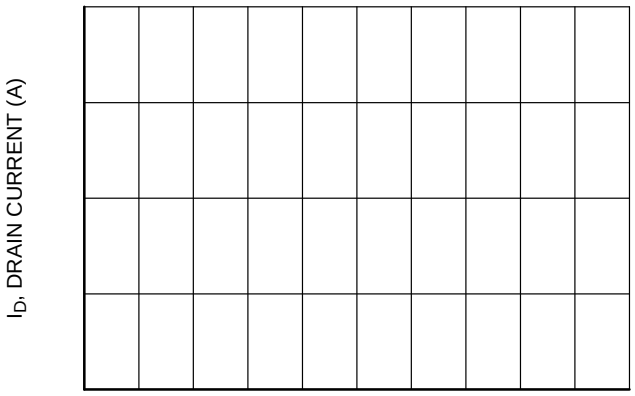


Figure 1. On−Region Characteristics

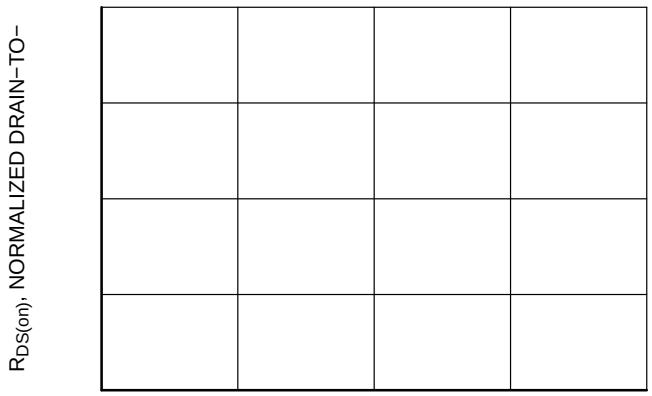


Figure 2. Normalized On−Resistance vs. Drain Current and Gate Voltage

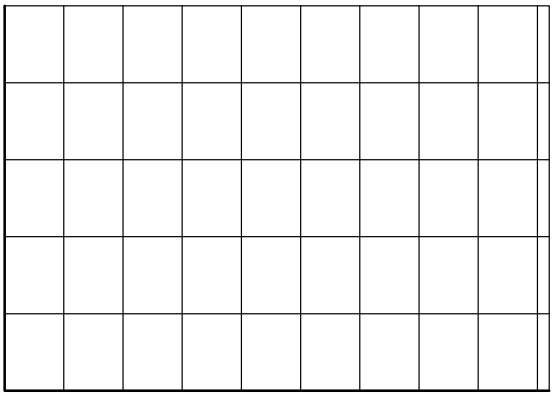


Figure 3. On−Resistance Variation with Temperature

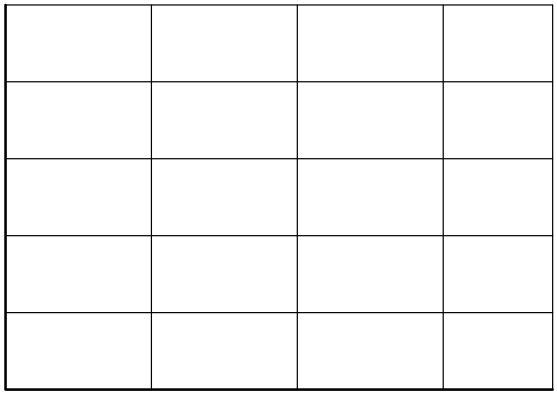


Figure 4. On−Resistance vs. Gate−to−Source Voltage

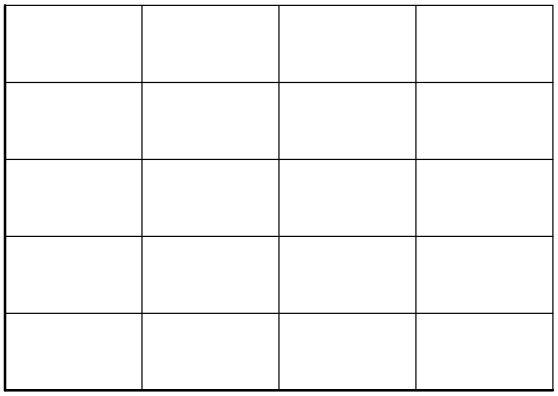


Figure 5. Transfer Characteristics

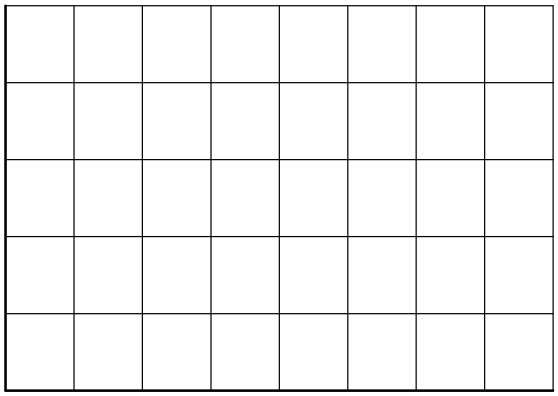
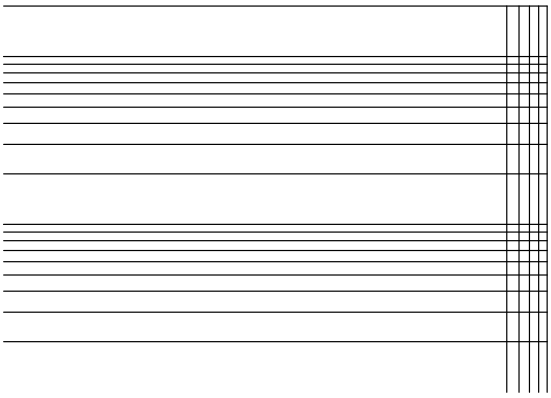
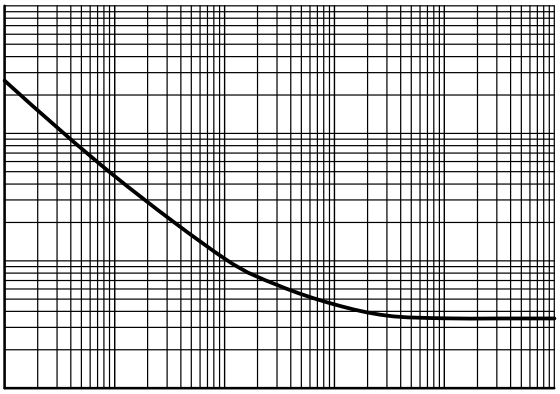


Figure 6. Switching Loss vs. Drain Current

TYPICAL CHARACTERISTICS

TYPICAL CHARACTERISTICS (continued)





 14.4414 TD0 Tc3i

TO−247−4LD
CASE 340CJ
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