HGA100N12S P-1

120V N-Ch Power MOSFET

V_{DS}		120	V
$R_{DS(on),typ}$	TO-220F	8.3	mΩ
$I_{D\ (Sillicon\ Limited)}$		49	A

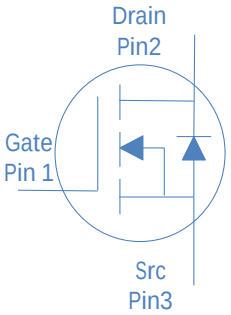
Feature

- High Speed Power Switching
- Enhanced Body diode dv/dt capability
- Enhanced Avalanche Ruggedness
- 100% UIS Tested, 100% Rg Tested
- Lead Free

Application

- Synchronous Rectification in SMPS
- Hard Switching and High Speed Circuit
- Power Tools
- UPS
- Motor Control

TO-220F



Part Number	Package	Marking
HGA100N12S	TO-220F	GA100N12S

Absolute Maximum Ratings at T_j=25 (unless otherwise specified)

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current (Silicon Limited)	I_D	T_C=25	49	A
		T_C=100	35	
Drain to Source Voltage	V_{DS}	-	120	V
Gate to Source Voltage	V_{GS}	-	±20	V
Pulsed Drain Current	I_{DM}	-	300	A
Avalanche Energy, Single Pulse	E_{AS}	L=0.4mH, T_C=25	320	mJ
Power Dissipation	P_D	T_C=25	43	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to175	

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Case	$R_{\theta JC}$	3.5	/W
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	65	/W

Electrical Characteristics at T_j=25 (unless otherwise specified)

Static Characteristics

Parameter

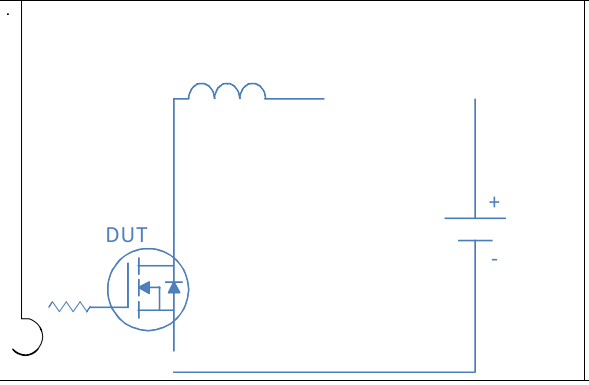
Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage	Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

Figure 9. Maximum Safe Operating Area	Figure 10. Maximun Drain Current vs. Case Temperature

Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Case

Inductive switching Test	

Gate Charge Test	

Uclamped Inductive Switching (UIS) Test	
	

Diode Recovery Test	

Package Outline

TO-220F, 3 leads

DIM	MILLIMETERS
A	10. 16±0. 3
A1	7. 00±0. 1
A2	3. 3±0. 2
A3	9. 5±0. 2
87±0. 3	B1 15.
7±0. 2	B2 4.
68±0. 4	B3 6.
3±0. 2	C 3.
57±0. 3	C1 12.
02±0. 5	C2 10.
54±0. 05	D 2.
28±0. 2	D1 1.
8±0. 1	D2 0.
1±0. 3	K 3.
54±0. 1	E1
E1	
DIA	⌀1. 5(clearance 0. 2)
Unit: mm	