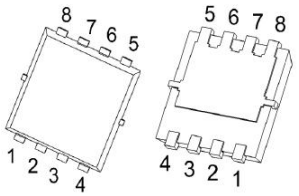
100V N-Channel SGT Power MOSFET

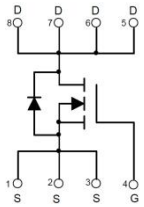
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
100V	15mΩ@10V	28A
	18mΩ@4.5V	

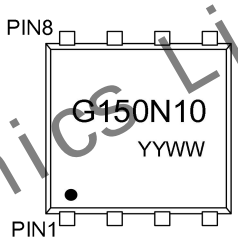
PDFNWB3.3x3.3-8L



Schematic diagram



Marking



G150N10 : Device Code
YY : Year Code
WW : Week Code

Features

- Low Gate Charge
- High Power and current handing capability
- Lead free product is acquired

Applications

- DC/DC Converter
- Ideal for high-frequency switching and synchronous rectification

Absolute Maximum rating（T_A = 25℃ unless otherwise noted）

Parameter		Symbol	Value	Unit
Drain - Source Voltage		V_{DS}	100	V
Gate - Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_A = 25℃	I_D	28	A
Pulsed Drain Current		I_{DM}	112	A
Power Dissipation		P_D	25	W
Avalanche energy[1]		E_{AS}	39	mJ
Thermal Resistance from Junction to Ambient		$R_{\theta JA}$	5	℃/W
Operating Junction and Storage Temperature Range		T_J,T_{STG}	-55~ +150	℃

Electrical Characteristics（T_A = 25℃ unless otherwise noted）

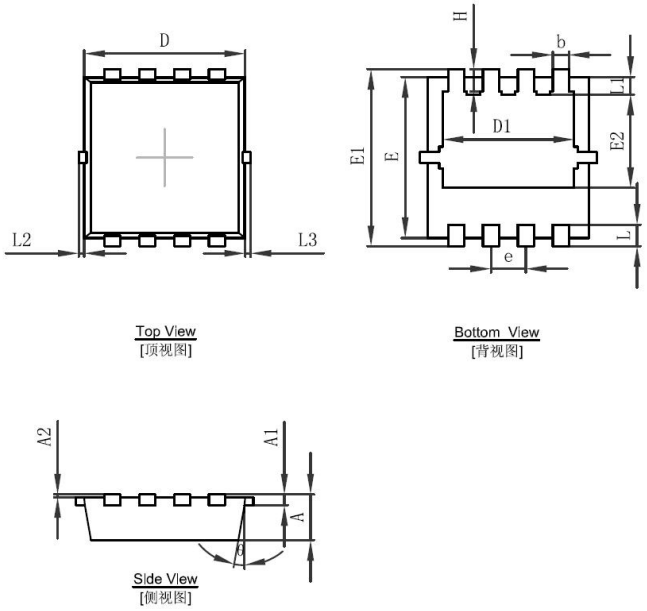
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain - Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}= 0V, I_D= 250μA	100			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}= 100V, V_{GS}= 0V			1	μA
Gate - Body Leakage Current	I_{GSS}	V_{GS}= ±20V, V_{DS}= 0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D= 250μA	1.0	1.5	2.5	V
Drain-source On-resistance	$R_{DS(on)}$	V_{GS}= 10V, I_D= 20A		15	20	mΩ
		V_{GS}= 4.5V, I_D= 10A		18	25	
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}= 50V,V_{GS}= 0V,f= 1MHz		806		pF
Output Capacitance	C_{oss}			280		
Reverse Transfer Capacitance	C_{rss}			8		
Switching Characteristics						
Total Gate Charge	Q_g	V_{DS}= 50V,V_{GS}= 10V, I_D= 5A		13		nC
Gate-source Charge	Q_{gs}			3		
Gate-drain Charge	Q_{gd}			3.5		
Turn-on Delay Time	$t_{d(on)}$	V_{GS}= 10V,V_{DS}= 50V, I_D= 5A,R_{GEN}= 6Ω		4.5		ns
Turn-on Rise Time	t_r			5		
Turn-off Delay Time	$t_{d(off)}$			16.7		
Turn-off Fall Time	t_f			8.7		
Source - Drain Diode Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}= 0V, I_S= 10A			1.2	V
Reverse Recovery Time	t_{rr}	I_F= 10A, dI/dt= 100A/μs		50		ns
Reverse Recovery Charge	Q_{rr}			90		nC

Notes :

1. E_{AS} condition: T_J=25℃,V_{DD}=50V,V_G=10V, R_g=25Ω, L=0.5mH

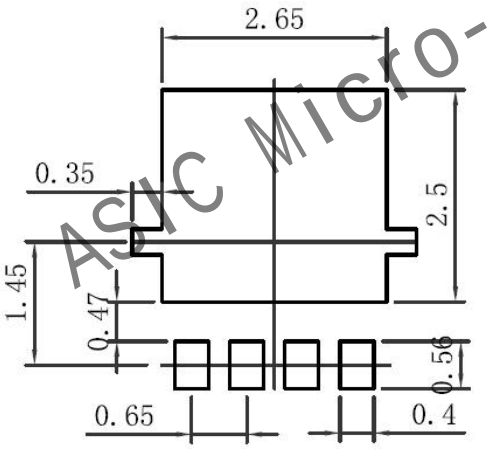
Dimension

PDFNWB3.3x3.3-8L



Symbol	Dimensions		Dimensions	
	Min	Max	Min	Max
A	0.650	0.850	0.026	0.033
A1	0.152 REF.		0.006 REF.	
A2	0~0.05		0~0.002	
D	2.900	3.100	0.114	0.122
D1	2.300	2.600	0.091	0.102
E	2.900	3.100	0.114	0.122
E1	3.150	3.450	0.124	0.136
E2	1.535	1.935	0.060	0.076
b	0.200	0.400	0.008	0.016
e	0.550	0.750	0.022	0.030
L	0.300	0.500	0.012	0.020
L1	0.180	0.480	0.007	0.019
L2	0~0.100		0~0.004	
L3	0~0.100		0~0.004	
H	0.315	0.515	0.012	0.020
θ	9°	13°	9°	13°

Recommended Land Pattern



Note:

1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference only
4. Unit: mm