

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
85V	1.6mΩ@10V	310A



合肥矽普半导体

Siliup Semiconductor Technology Co.Ltd

技术 品质 服务

www.siliup.com

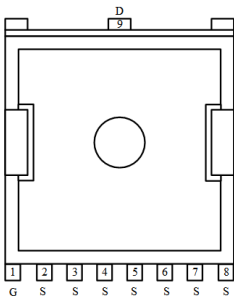
Feature

- Fast Switching
- Low Gate Charge and Rdson
- Low Reverse transfer capacitances
- 100% Single Pulse avalanche energy Test

- Power switching application
- DC-DC Converter
- Power Management

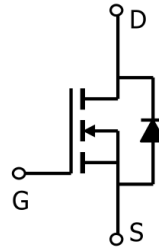
Applications

Package

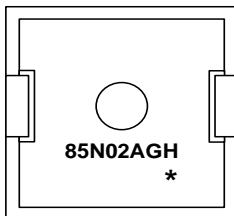


Toll

Circuit diagram



Marking



85N02AGH : Product code
* : Month code

Order Information

Device	Package	Unite/Tape
SP85N02AGHTO	TOLL-8L	2000

Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain source voltage	V_{DS}	85	V
Gate source voltage	V_{GS}	± 20	V
Continuous drain current(Tc=25°C)	I_D	310	A
Pulsed drain current	I_{DM}	1240	A
Power dissipation(Tc=25°C)	P_D	420	W
Single pulsed avalanche energy ¹⁾	E_{AS}	405	mJ
Thermal resistance, junction-case	$R_{\theta JC}$	0.35	°C/W
Operation and storage temperature	T_{stg}, T_j	-55 to 150	°C

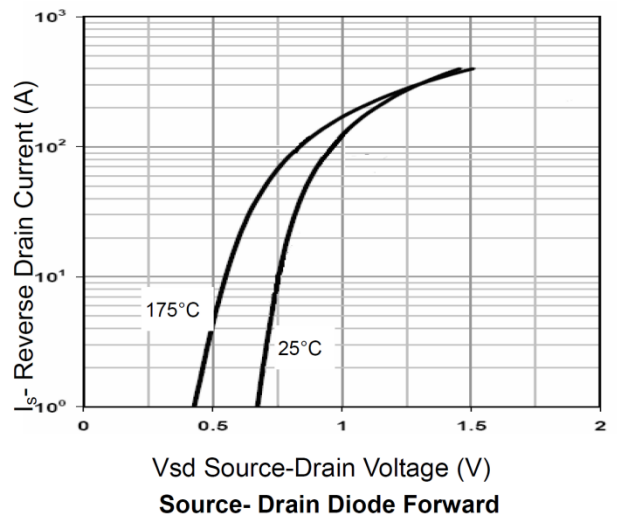
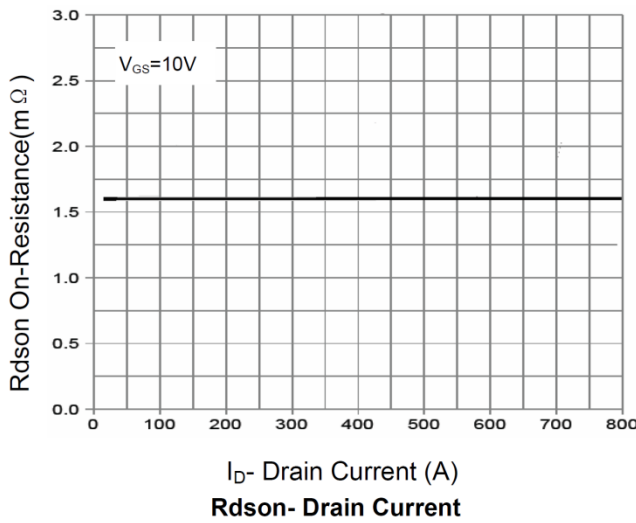
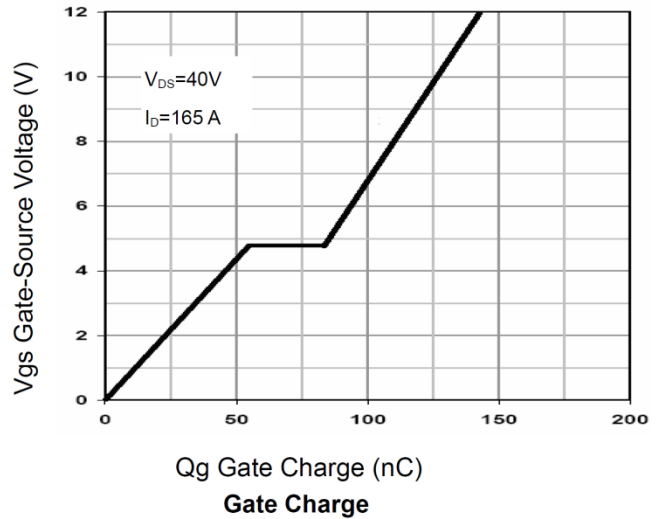
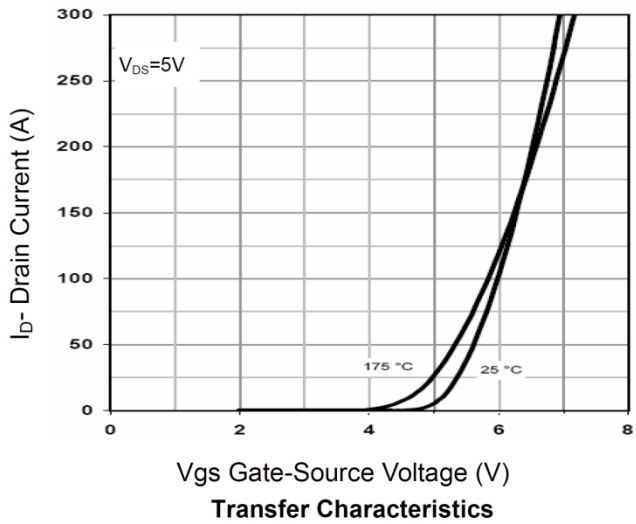
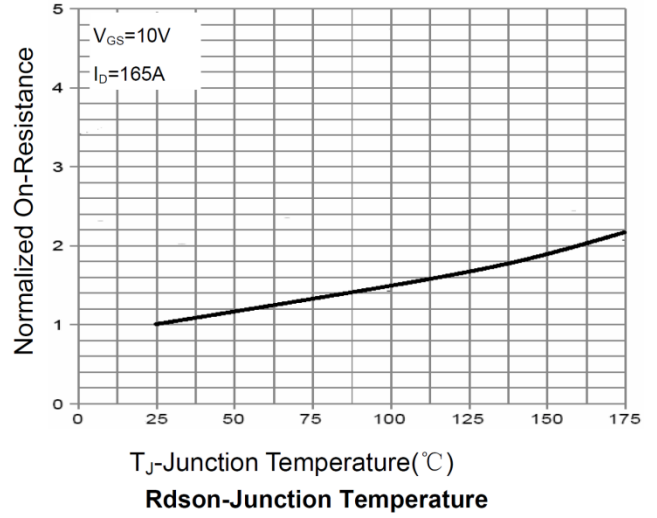
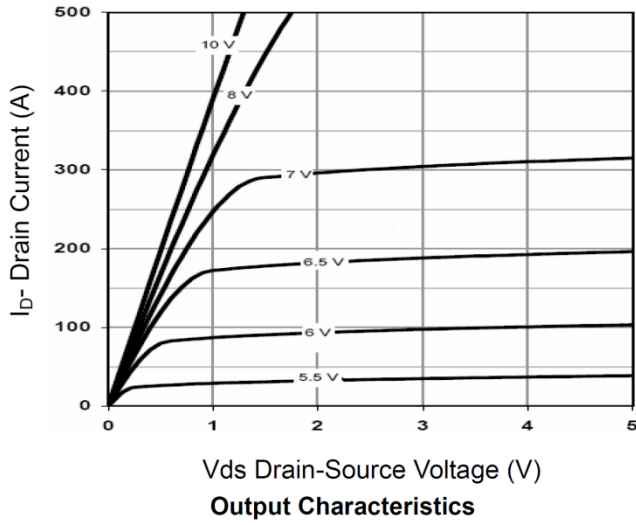
Electrical characteristics (Ta=25°C, unless otherwise noted)

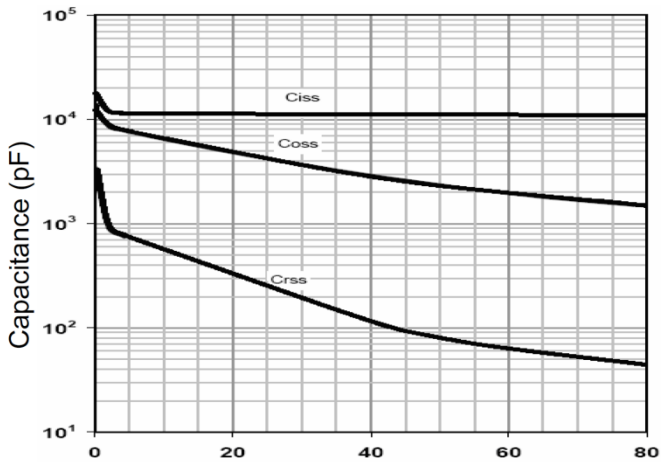
Characteristics	Symbol	Test Condition	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D = 250\mu A, V_{GS} = 0V$	85	-	-	V
Drain Cut-Off Current	I_{DSS}	$V_{DS} = 68V, V_{GS} = 0V$	-	-	1	μA
Gate Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$	-	-	± 0.1	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2.0	3.0	4.0	V
Drain-Source ON Resistance	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 20A$	-	1.6	2.5	m Ω
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS} = 40V, V_{GS} = 0V, f = 1.0MHz$	-	9860	-	pF
Output Capacitance	C_{oss}		-	1670	-	
Reverse Transfer Capacitance	C_{rss}		-	76	-	
Switching Characteristics						
Total Gate Charge	Q_g	$V_{DS} = 40V, V_{GS} = 10V, I_D = 165A$	-	143	-	nC
Gate-Source Charge	Q_{gs}		-	51	-	
Gate-Drain Charge	Q_{gd}		-	25	-	
Turn-On Delay Time	$t_{d(on)}$	$V_{GS} = 10V, V_{DS} = 40V, I_D = 165A, R_G = 1.6\Omega$	-	27	-	ns
Rise Time	t_r		-	75	-	
Turn-Off Delay Time	$t_{d(off)}$		-	86	-	
Fall Time	t_f		-	35	-	
Drain-Source Body Diode Characteristics						
Source-Drain Diode Forward Voltage	V_{SD}	$I_S = 1A, V_{GS} = 0V$	-	-	1.2	V

Note:

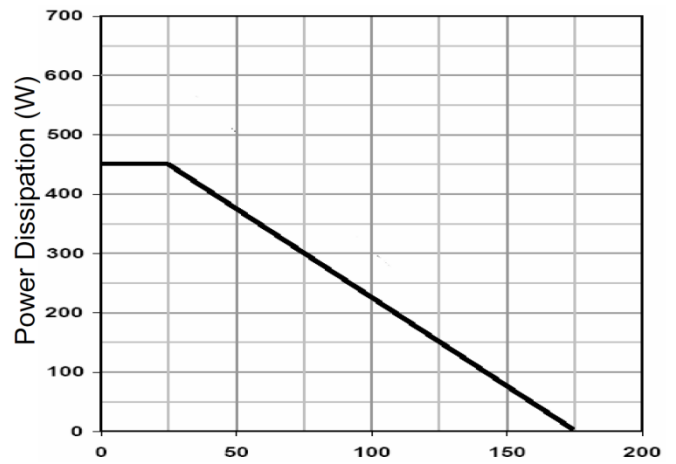
- E_{AS} is tested at starting $T_j = 25^\circ C, V_{DD} = 45V, V_{GS} = 10V, L = 0.1mH, R_g = 25\Omega$;

Typical Characteristics

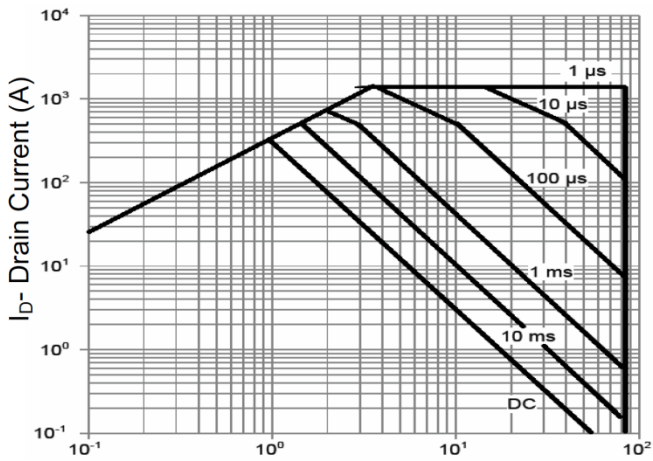




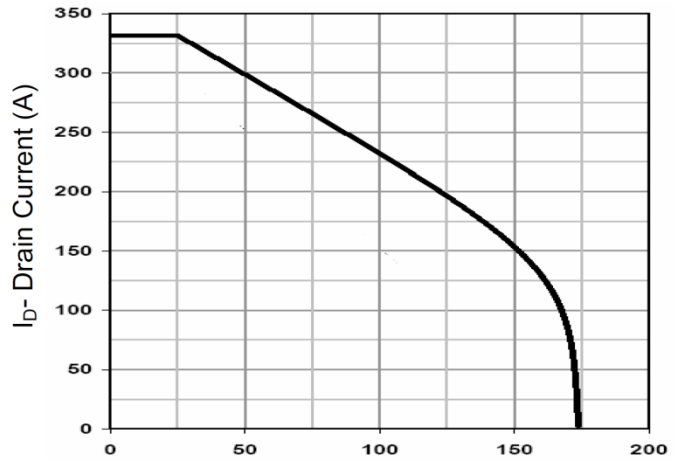
Vds Drain-Source Voltage (V)
Capacitance vs Vds



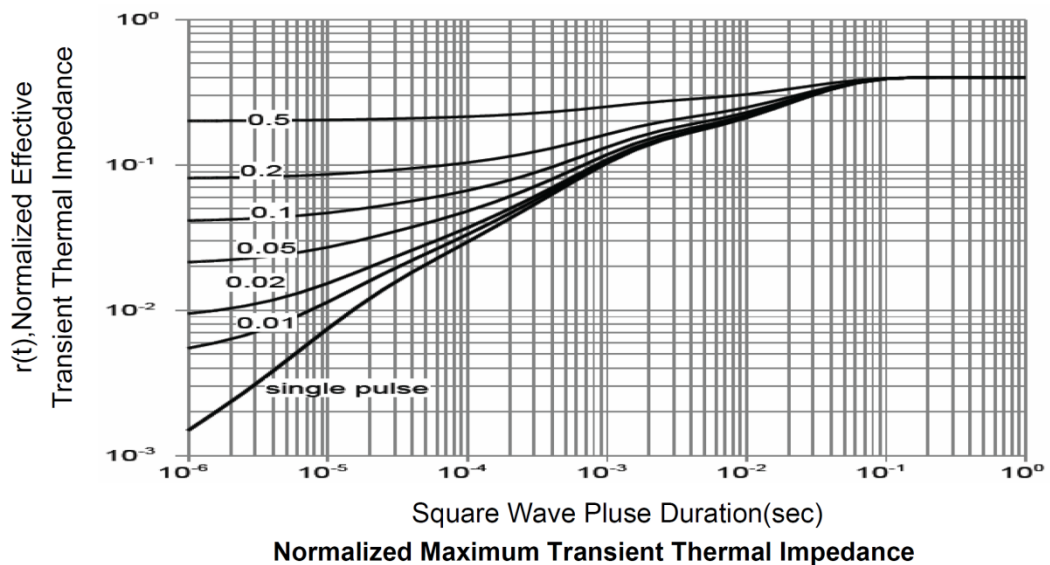
T_J-Junction Temperature(°C)
Power De-rating



Vds Drain-Source Voltage (V)
Safe Operation Area

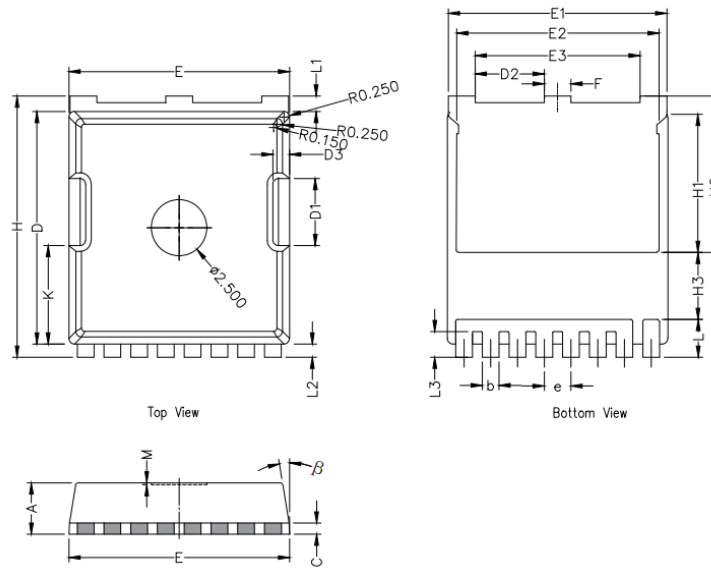


T_J-Junction Temperature (°C)
Current De-rating



Normalized Maximum Transient Thermal Impedance

TOLL Package Information



Symbol	Dimensions In Millimeters		
	Min.	Nom.	Max.
A	2.20	2.30	2.40
b	0.65	0.75	0.85
C	0.508 REF		
D	10.25	10.40	10.55
D1	2.85	3.00	3.15
E	9.75	9.90	10.05
E1	9.65	9.80	9.95
E2	8.95	9.10	9.25
E3	7.25	7.40	7.55
e	1.20 BSC		
F	1.05	1.20	1.35
H	11.55	11.70	11.85
H1	6.03	6.18	6.33
H2	6.85	7.00	7.15
H3	3.00 BSC		
L	1.55	1.70	1.85
L1	0.55	0.7	0.85
L2	0.45	0.6	0.75
M	0.08 REF.		
β	8°	10°	12°
K	4.25	4.40	4.55

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [MOSFET](#) category:

Click to view products by [Siliup](#) manufacturer:

Other Similar products are found below :

[IRFD120](#) [IRFY240C](#) [JANTX2N5237](#) [2SK2267\(Q\)](#) [BUK455-60A/B](#) [MIC4420CM-TR](#) [VN1206L](#) [NDP4060](#) [SI4482DY](#)
[IPS70R2K0CEAKMA1](#) [SQD23N06-31L-GE3](#) [TK16J60W,S1VQ\(O](#) [2SK2614\(TE16L1,Q\)](#) [DMN1017UCP3-7](#) [EFC2J004NUZTDG](#)
[DMN1053UCP4-7](#) [SQJ469EP-T1-GE3](#) [NTE2384](#) [DMC2700UDMQ-7](#) [DMN2080UCB4-7](#) [DMN61D9UWQ-13](#) [US6M2GTR](#)
[DMN31D5UDJ-7](#) [DMP22D4UFO-7B](#) [DMN1006UCA6-7](#) [DMN16M9UCA6-7](#) [STF5N65M6](#) [IRF40H233XTMA1](#) [STU5N65M6](#)
[DMN6022SSD-13](#) [DMN13M9UCA6-7](#) [DMTH10H4M6SPS-13](#) [DMN2990UFB-7B](#) [IPB80P04P405ATMA2](#) [2N7002W-G](#) [MCAC30N06Y-](#)
[TP](#) [MCQ7328-TP](#) [NTMC083NP10M5L](#) [NVMFS2D3P04M8LT1G](#) [BXP7N65D](#) [BXP4N65F](#) [AOL1454G](#) [WMJ80N60C4](#) [BXP2N20L](#)
[BXP2N65D](#) [BXT1150N10J](#) [BXT1700P06M](#) [TSM60NB380CP](#) [ROG](#) [RQ7L055BGTCR](#) [DMNH15H110SK3-13](#)