

## Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
100V	1.5mΩ@10V	340A

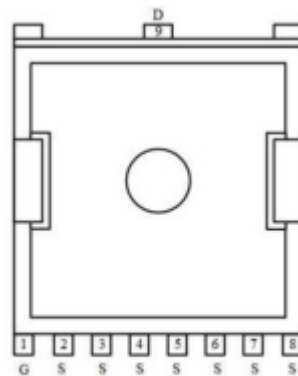
## Feature

- Fast Switching
- Low Gate Charge and Rdson
- Advanced Split Gate Trench Technology 100% Single Pulse avalanche energy Test

## Application

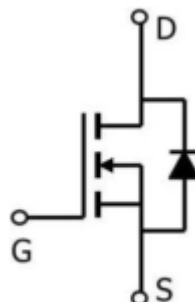
- PWM Application
- Hard switched and high frequency circuits Power Management

## Package

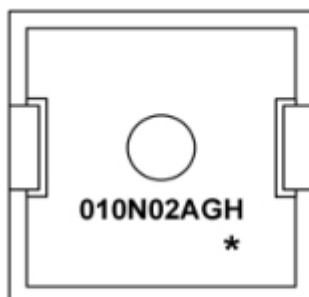


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## Circuit diagram



## Marking



**010N02AGH**  
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=Device Code  
=Week Code

## Absolute maximum ratings

(T<sub>a</sub>=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V <sub>DS</sub>	100	V
Gate-Source Voltage	V <sub>GS</sub>	±20	V
Continuous Drain Current <sup>1</sup> (T <sub>C</sub> =25°C)	I <sub>D</sub>	340	A
Pulsed Drain Current <sup>2</sup>	I <sub>DM</sub>	1360	A
Single Pulse Avalanche Energy <sup>3</sup>	E <sub>AS</sub>	558	mJ
Total Power Dissipation(T <sub>C</sub> =25°C)	P <sub>D</sub>	400	W
Thermal Resistance Junction-Case <sup>1</sup>	R <sub>θJC</sub>	0.38	°C/ W
Storage Temperature Range	T <sub>STG</sub>	-55~ +150	°C
Operating Junction Temperature Range	T <sub>J</sub>	-55~ +150	°C

## Electrical characteristics

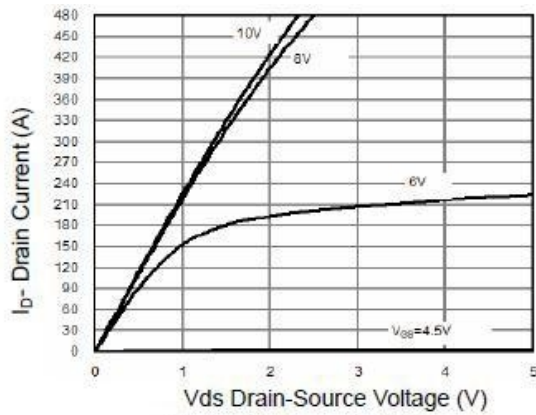
(T<sub>A</sub>=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	BV <sub>DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> =250μA	100			V
Drain-Source Leakage Current	I <sub>DSS</sub>	V <sub>DS</sub> =80V,V <sub>GS</sub> = 0V T <sub>J</sub> =25°C			1	uA
Gate-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±20V, V <sub>DS</sub> = 0V			±100	uA
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	2	2.7	4	V
Static Drain-Source on-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =125A		1.5	1.9	Ω
Dynamic characteristics						
Input Capacitance	C <sub>iSS</sub>	V <sub>DS</sub> =50V,V <sub>GS</sub> =0V, f=1MHz		10531		pF
Output Capacitance	C <sub>OSS</sub>			1889		
Reverse Transfer Capacitance	C <sub>rSS</sub>			82		
Switching Characteristics						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =50V, V <sub>GS</sub> =10V, I <sub>D</sub> =125A		168		nC
Gate-Source Charge	Q <sub>gS</sub>			51		
Gate-Drain Charge	Q <sub>gd</sub>			37		
Turn-On Delay Time	T <sub>d(on)</sub>	V <sub>DD</sub> =50V, V <sub>GS</sub> =10V, R <sub>G</sub> =1.6Ω, I <sub>D</sub> =125A		25		nS
Rise Time	T <sub>r</sub>			75		
Turn-Off Delay Time	T <sub>d(off)</sub>			89		
Fall Time	T <sub>f</sub>			29		
Diode Characteristics						
Diode Forward Voltage2	V <sub>SD</sub>	V <sub>GS</sub> =0V, I <sub>S</sub> =9A, T <sub>J</sub> =25°C			1.2	V

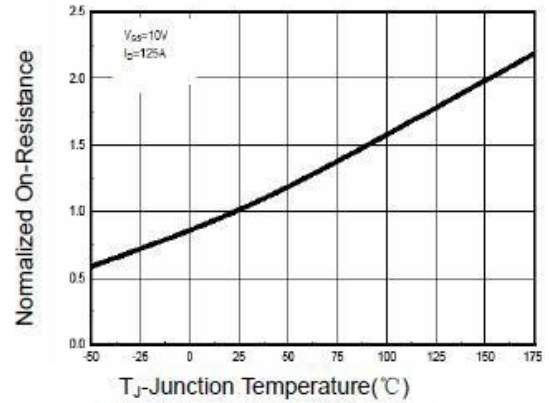
### Notes:

1. The EAS data shows Max. rating . The test condition is VDD=50V,VGS=10V,L=0.5mH,RG=25Ω
2. The power dissipation is limited by 150°C junction temperature

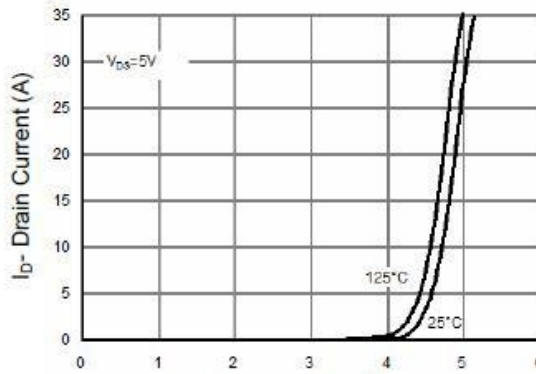
## Typical Characteristics



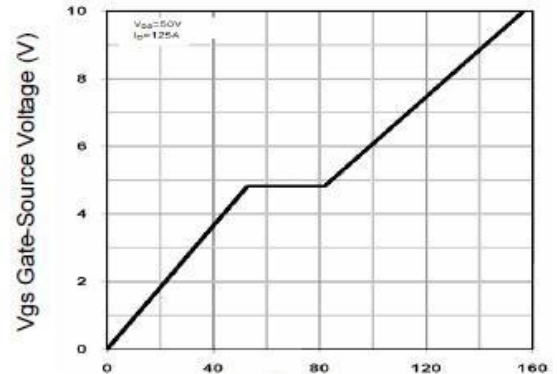
Output Characteristics



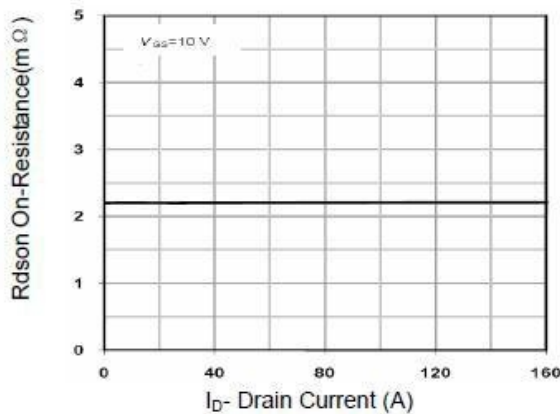
$R_{ds(on)}$ -Junction Temperature



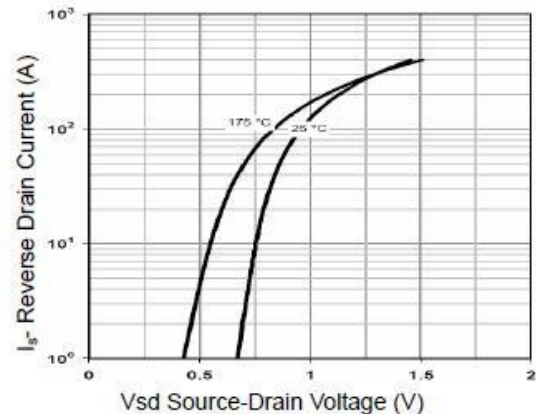
Transfer Characteristics



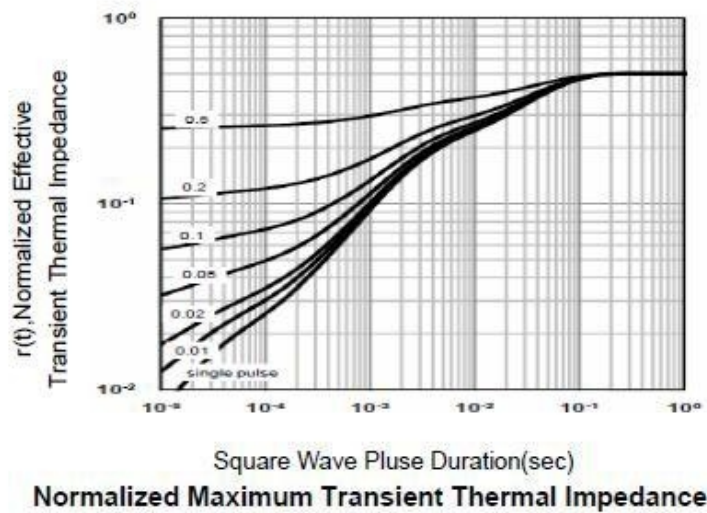
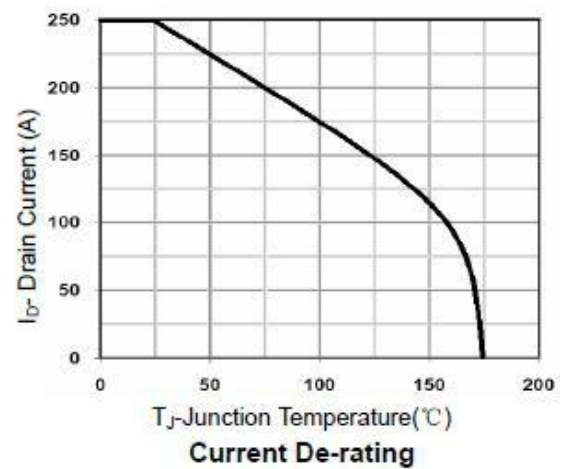
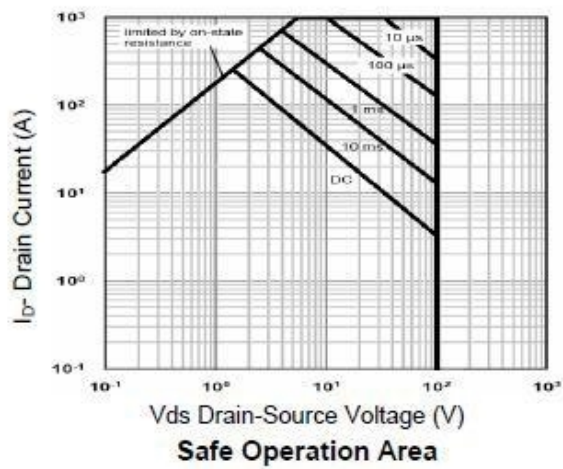
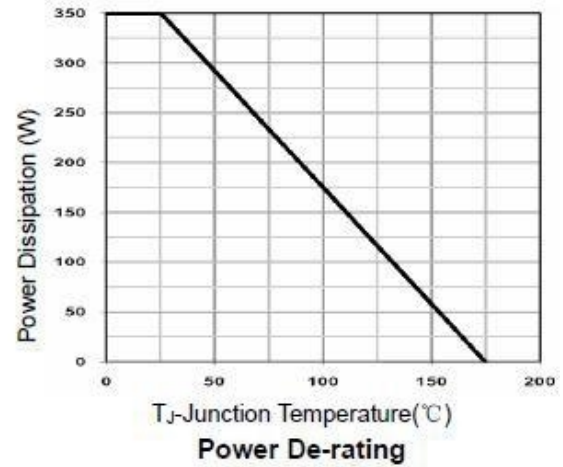
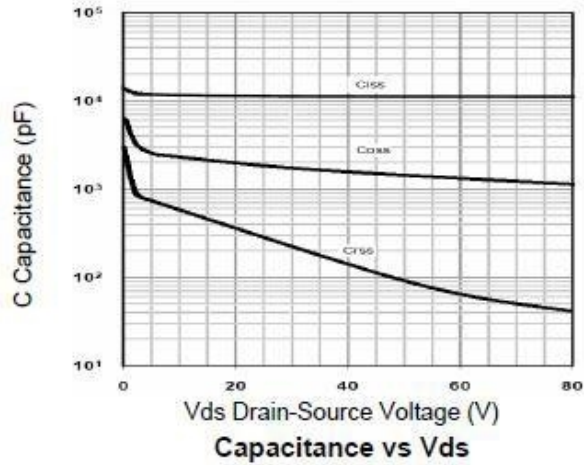
Gate Charge



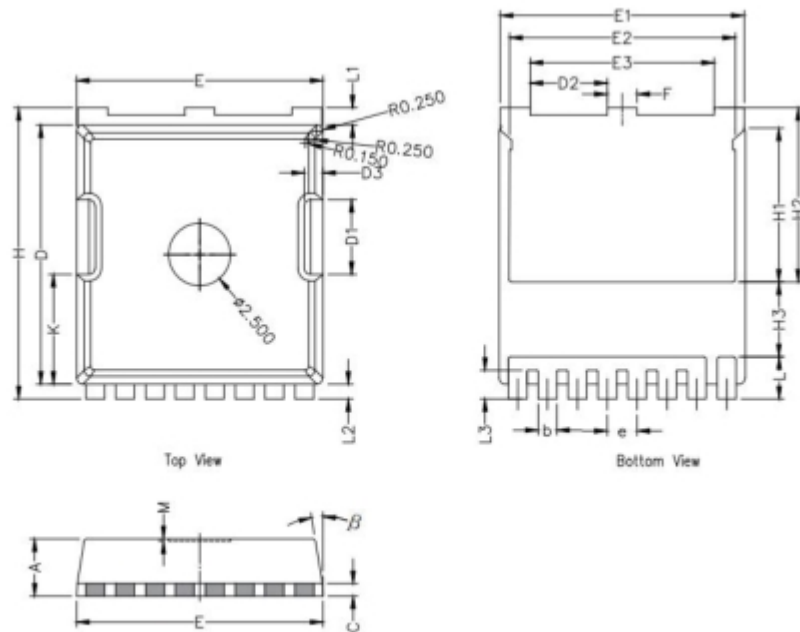
$R_{ds(on)}$ - Drain Current



Source- Drain Diode Forward



## 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