Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
100V	1.6mΩ@10V	260A

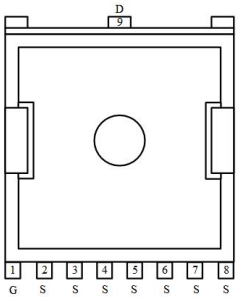
Feature

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

Applications

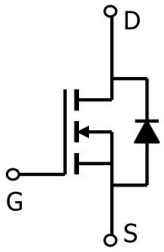
- Power switching application
- DC-DC Converter
- Power Management

Package

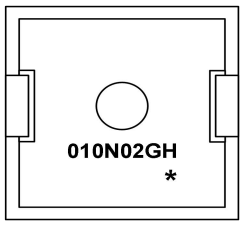


Toll

Circuit diagram



Marking



010N02GH : Product code
*** : Month code**

Absolute maximum ratings (Ta=25℃,unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain source voltage	V_{DS}	100	V
Gate source voltage	V_{GS}	±20	V
Continuous drain current(Tc=25℃)	I_D	260	A
Continuous drain current(Tc=100℃)	I_D	175	A
Pulsed drain current	I_{DM}	860	A
Power dissipation(Tc=25℃)	P_D	280	W
Single pulsed avalanche energy1)	E_{AS}	1560	mJ
Thermal resistance, junction-case	$R_{\theta JC}$	0.45	℃/W
Operation and storage temperature	T_{stg}, T_j	-55 to 175	℃

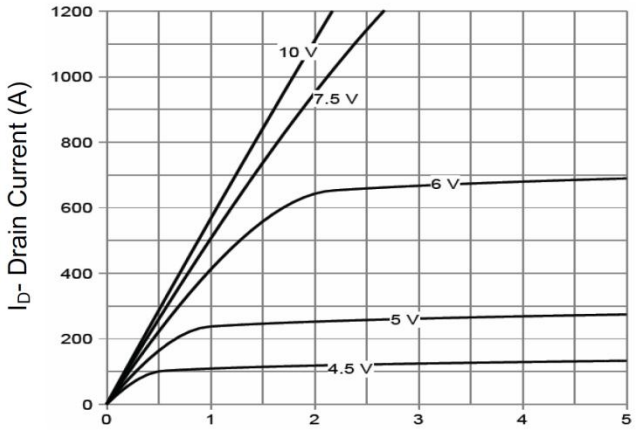
Electrical characteristics (Ta=25℃, unless otherwise noted)

Characteristics	Symbol	Test Condition	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	I_D = 250μA, V_{GS} = 0V	100	-	-	V
Drain Cut-Off Current	I_{DSS}	V_{DS} = 80V, V_{GS} = 0V	-	-	1	μA
Gate Leakage Current	I_{GSS}	V_{GS} = ±20V, V_{DS} = 0V	-	-	±0.1	
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	2.7	3.2	4	V
Drain-Source ON Resistance	$R_{DS(ON)}$	V_{GS} = 10V, I_D = 20A	-	1.6	2	mΩ
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS} =50V, V_{GS} = 0V, f = 1.0MHz	-	9625	-	pF
Output Capacitance	C_{oss}		-	1608	-	
Reverse Transfer Capacitance	C_{rss}		-	75	-	
Switching Characteristics						
Total Gate Charge	Q_g	VDS=50V , VGS=10V , ID=20A	-	160	-	nC
Gate-Source Charge	Q_{gs}		-	31	-	
Gate-Drain Charge	Q_{gd}		-	37	-	
Turn-On Delay Time	$t_{d(on)}$	V_{GS} = 10V, V_{DS} = 50V, RL=2.5Ω , R_G = 6.0Ω	-	35	-	ns
Rise Time	t_r		-	68	-	
Turn-Off Delay Time	$t_{d(off)}$		-	150	-	
Fall Time	t_f		-	105	-	
Drain-Source Body Diode Characteristics						
Source-Drain Diode Forward Voltage	V_{SD}	I_S = 1A, V_{GS} = 0V	-	-	1.2	V

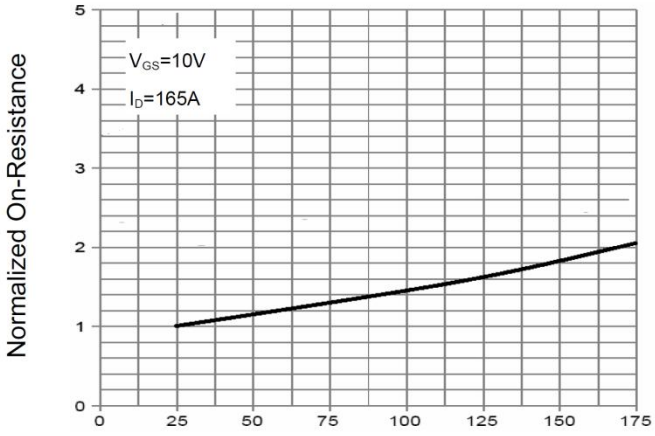
Note:

1. E_{AS} is tested at starting Tj = 25℃, V_{DD}=50V,V_{GS} = 10V,L = 0.5mH, Rg=25mΩ;

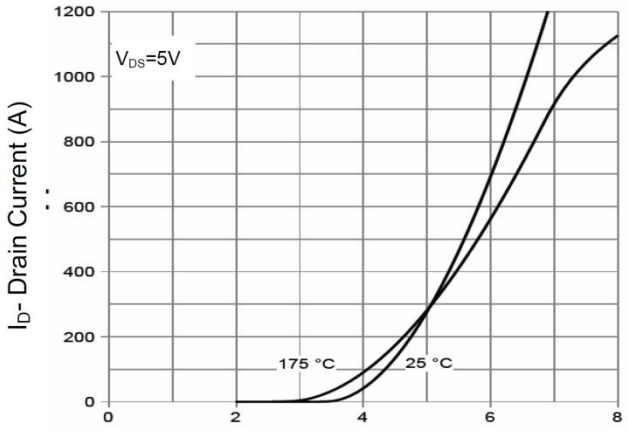
Typical Characteristics



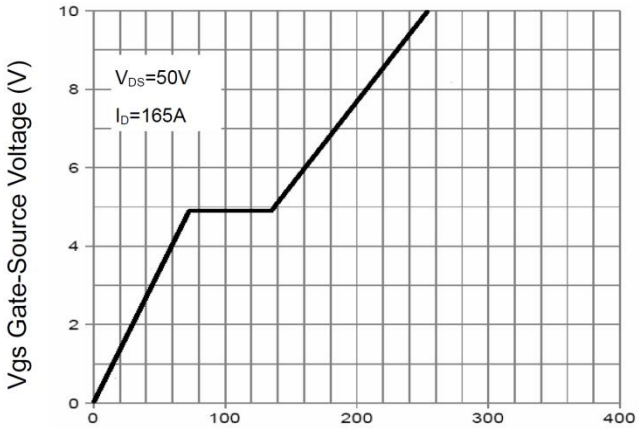
Output Characteristics



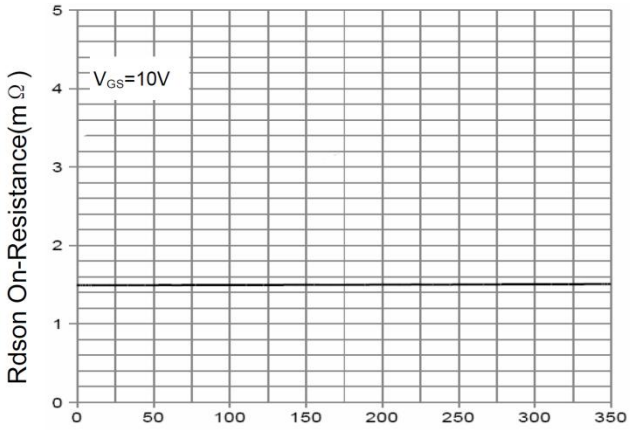
Rdson-Junction Temperature



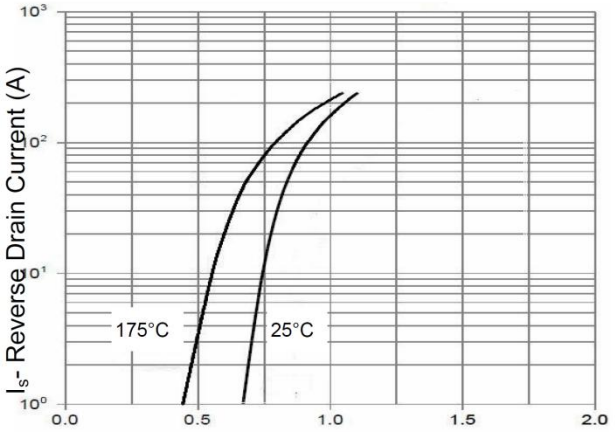
Transfer Characteristics



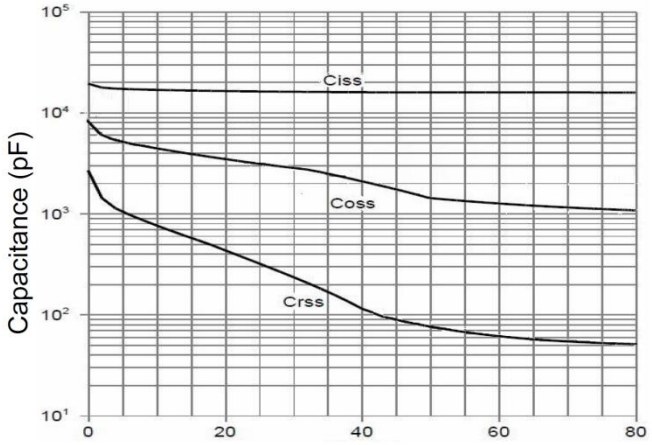
Gate Charge



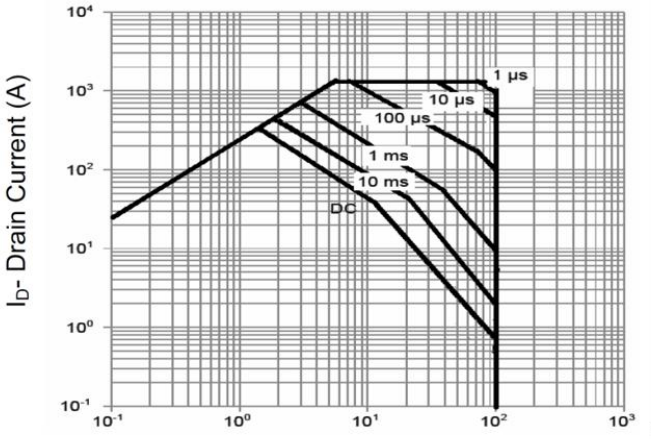
Rdson- Drain Current



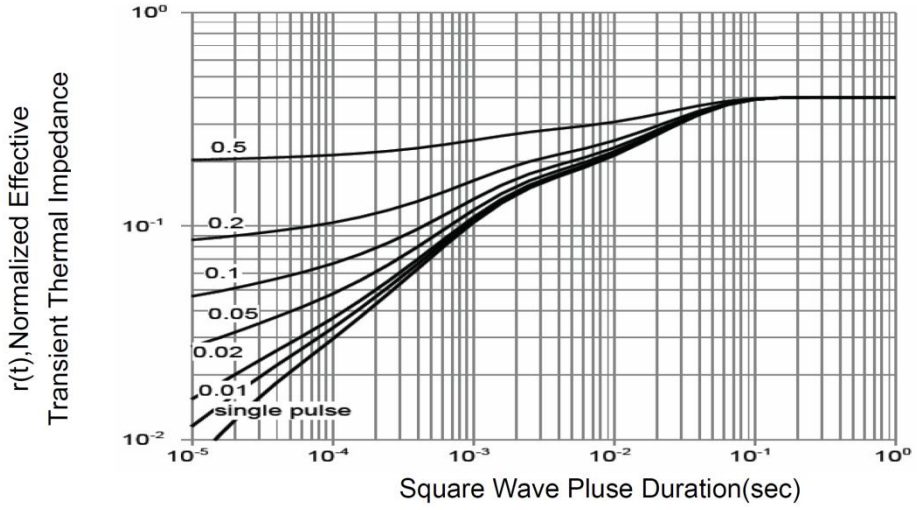
Source- Drain Diode Forward



Capacitance vs Vds

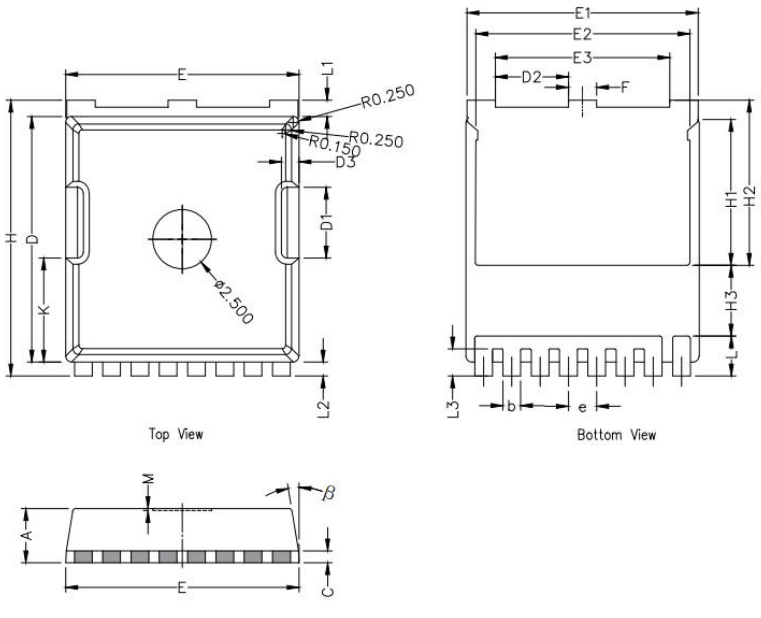


Safe Operation Area



Normalized Maximum Transient Thermal Impedance

TOLL Package Information



S

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

制 修 订 记 录					
文件版本	制修日期	修订页次	修订人	变更内容	
1.0	2022/7/26		王余林	规格书建立	
1.1	2023/8/15		覃源	根据FT更新Rdson	
1.2	2024/1/30		陈志鹏	增加高温ID，修正曲线图	
批准		审核		编制	
日期		日期		日期	