Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
100V	2.4mΩ@10V	240A

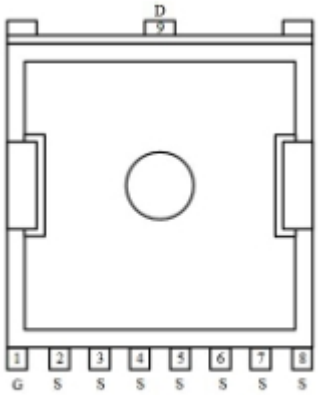
Feature

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

Application

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

Package



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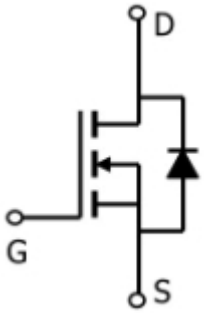
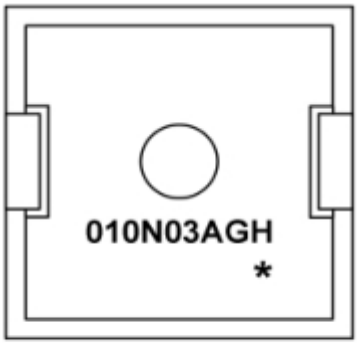
Circuit diagram



Marking



010N03AGH : Product code
*** : Month code**

Absolute maximum ratings

(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_C =25℃)	I_D	240	A
Pulsed Drain Current	I_{DM}	960	A
Power dissipation (T_C =25℃)	P_D	360	W
Single Pulse Avalanche Energy[1]	E_{AS}	1850	mJ
Thermal Resistance Junction-Case	$R_{\theta JC}$	0.35	℃/ W
Operation and storage temperature	T_{STG}, T_J	-55~ +150	℃

Electrical characteristics

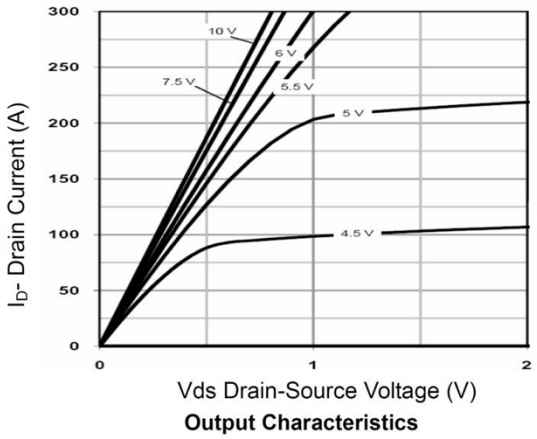
(T_A=25℃, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	BV_{DSS}	V_{GS} = 0V, I_D =250μA	100			V
Drain Cut-Off Current	I_{DSS}	V_{DS} =80V,V_{GS} = 0V			1	uA
Gate Leakage Current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±0.1	uA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	2	2.5	4	V
Drain-Source on-Resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =30A		2.4	3	Ω
Dynamic characteristics						
Input Capacitance	C_{iss}	V_{DS}=50V,V_{GS}=0V, f=1MHz		6980		pF
Output Capacitance	C_{oss}			653		
Reverse Transfer Capacitance	C_{rss}			24		
Switching Characteristics						
Total Gate Charge	Q_g	V_{DS}=50V, V_{GS}=10V, I_D=100A		158		nC
Gate-Source Charge	Q_{gs}			53		
Gate-Drain Charge	Q_{gd}			27		
Turn-On Delay Time	$T_{d(on)}$	V_{GS}=10V, V_{DS}=50V, I_D=100A, R_G=6.0Ω		26		nS
Rise Time	T_r			75		
Turn-Off Delay Time	$T_{d(off)}$			87		
Fall Time	T_f			30		
Diode Characteristics						
Source-Drain Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=1A			1.2	V

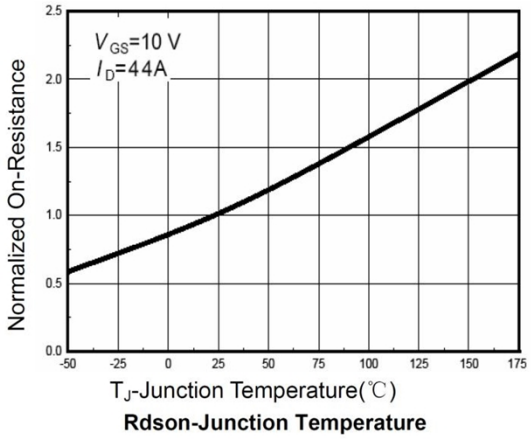
Notes:

1. E AS is tested at starting T_j = 25℃, V_{DD} =50V,V_{GS} = 10V,L = 0.5mH, R_g=25Ω;

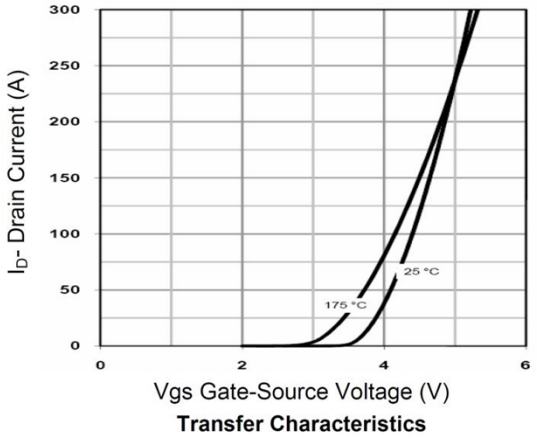
Typical Characteristics



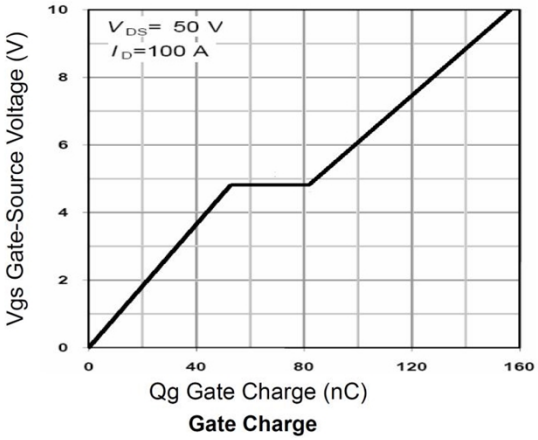
Output Characteristics



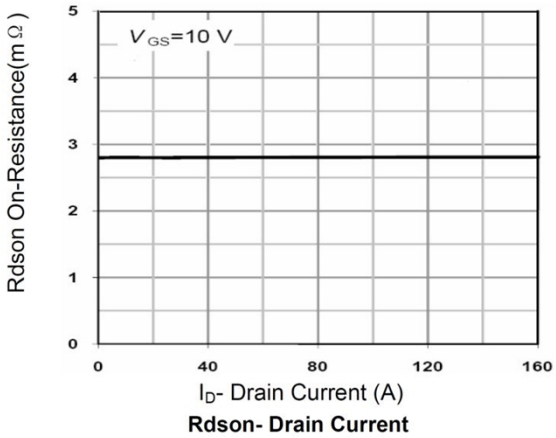
Rdson-Junction Temperature



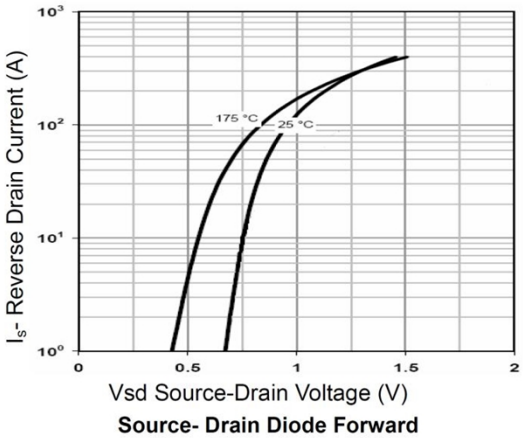
Transfer Characteristics



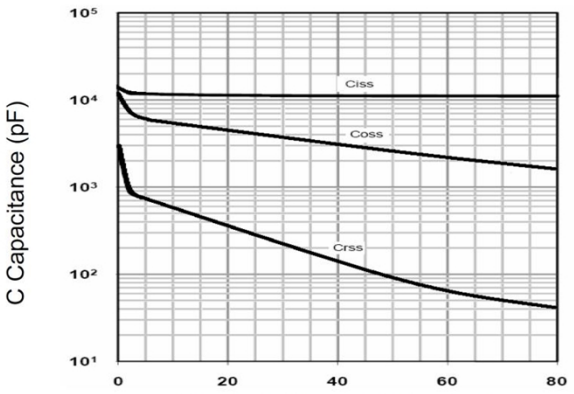
Gate Charge



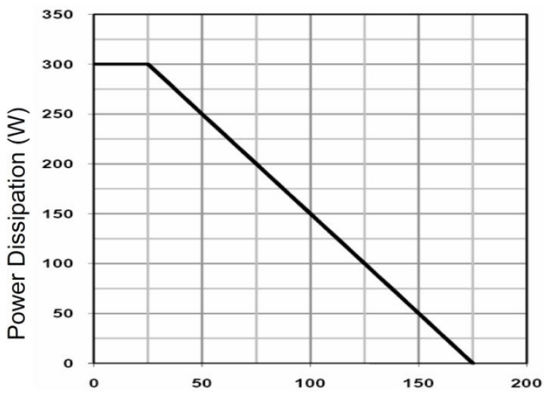
Rdson- Drain Current



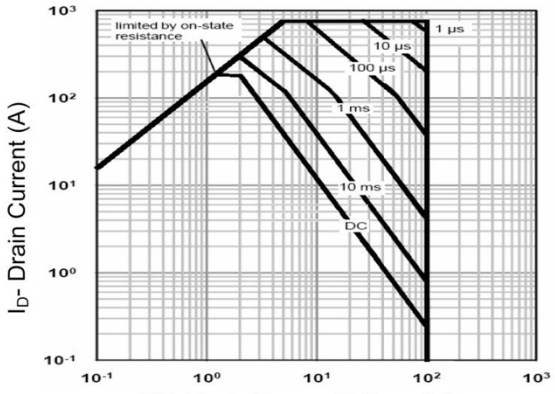
Source- Drain Diode Forward



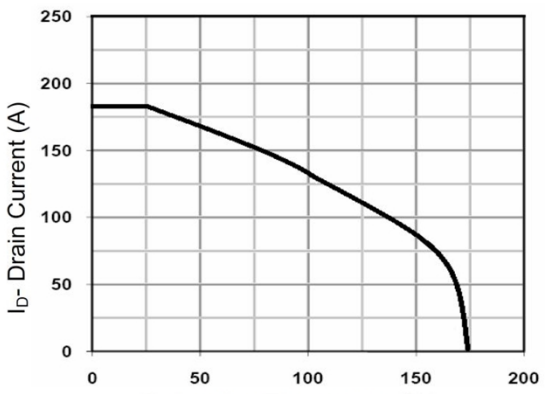
Capacitance vs Vds



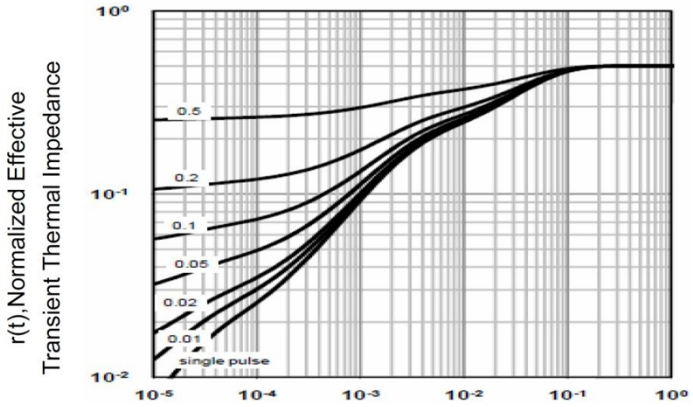
Power De-rating



Safe Operation Area

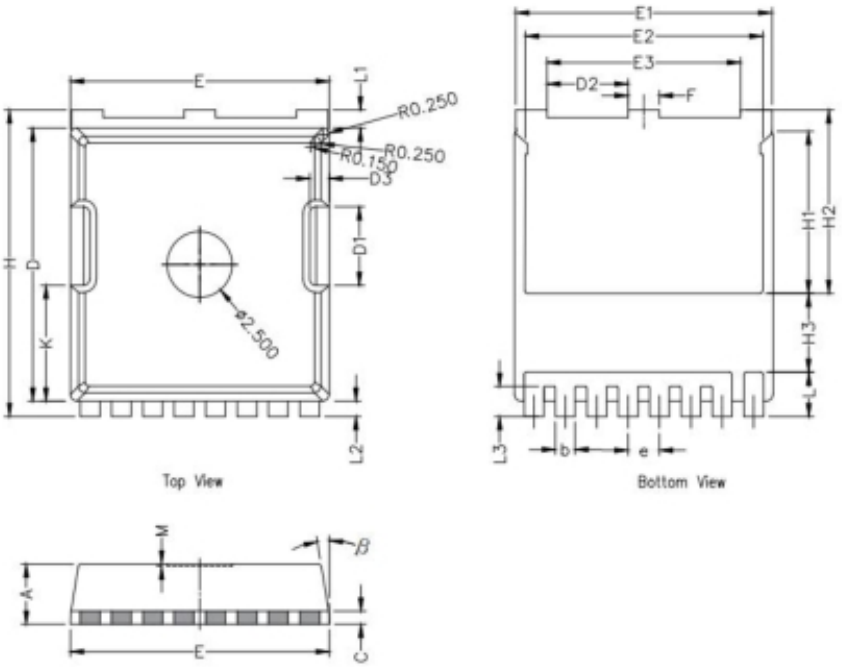


Current De-rating



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