

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
150V	5.7mΩ@10V	185A

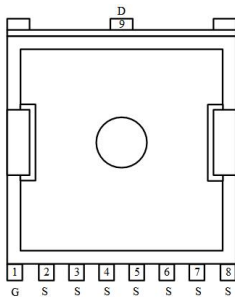
Feature

- Fast Switching
- Low Gate Charge and Rds(on)
- 100% Single Pulse avalanche energy Test

Applications

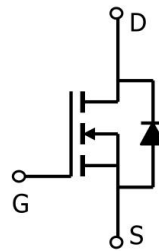
- Power switching application
- DC-DC Converter
- Power Management

Package

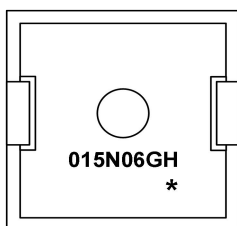


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Circuit diagram



Marking



015N06GH : Product code
* : Month code

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

Parameter	Symbol	Rating	Unit
Drain source voltage	V_{DS}	150	V
Gate source voltage	V_{GS}	± 20	V
Continuous drain current(Tc=25°C)	I_D	185	A
Pulsed drain current	I_{DM}	740	A
Power dissipation(Tc=25°C)	P_D	214	W
Single pulsed avalanche energy ¹⁾	E_{AS}	812	mJ
Thermal resistance, junction-case	$R_{\theta JC}$	0.58	°C/W
Operation and storage temperature	T_{stg}, T_j	-55 to 150	°C

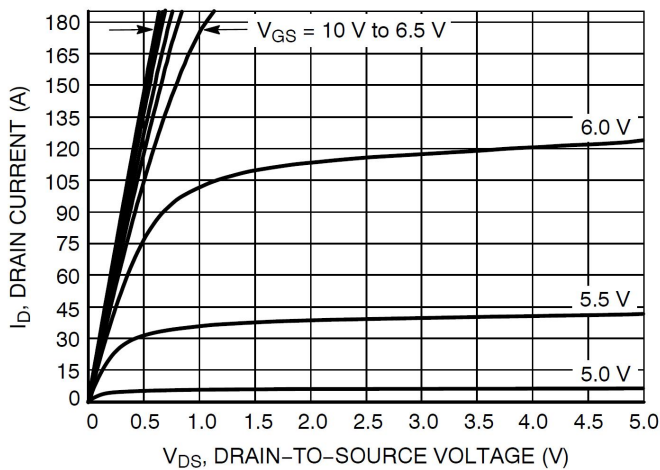
Electrical characteristics (Ta=25°C, unless otherwise noted)

Characteristics	Symbol	Test Condition	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D = 250\mu A, V_{GS} = 0V$	150	-	-	V
Drain Cut-Off Current	I_{DSS}	$V_{DS} = 120V, V_{GS} = 0V$	-	-	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	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 20A$	-	5.7	7.5	m Ω
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS} = 75V, V_{GS} = 0V, f = 1.0MHz$	-	5050	-	μF
Output Capacitance	C_{oss}		-	630	-	
Reverse Transfer Capacitance	C_{rss}		-	26	-	
Switching Characteristics						
Total Gate Charge	Q_g	$V_{DS}=75V, V_{GS}=10V, I_D=104A$	-	70	-	nC
Gate-Source Charge	Q_{gs}		-	31	-	
Gate-Drain Charge	Q_{gd}		-	20	-	
Turn-On Delay Time	$t_{d(on)}$	$V_{GS} = 10V, V_{DS} = 50V, I_D = 104A, R_G = 6\Omega$	-	24	-	ns
Rise Time	t_r		-	35	-	
Turn-Off Delay Time	$t_{d(off)}$		-	46	-	
Fall Time	t_f		-	15	-	
Drain-Source Body Diode Characteristics						
Source-Drain Diode Forward Voltage	V_{SD}	$I_S = 1A, V_{GS} = 0V$	-	-	1.2	V

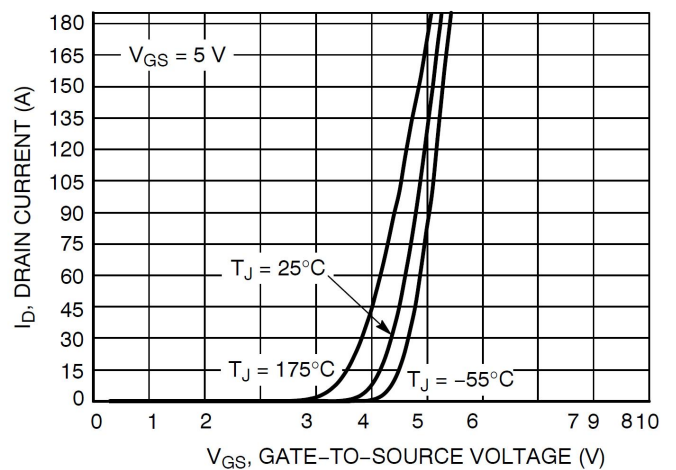
Note:

- E_{AS} is tested at starting $T_j = 25^\circ C, V_{DD}=75V, V_{GS} = 10V, L = 0.5mH, R_g=25\Omega$;

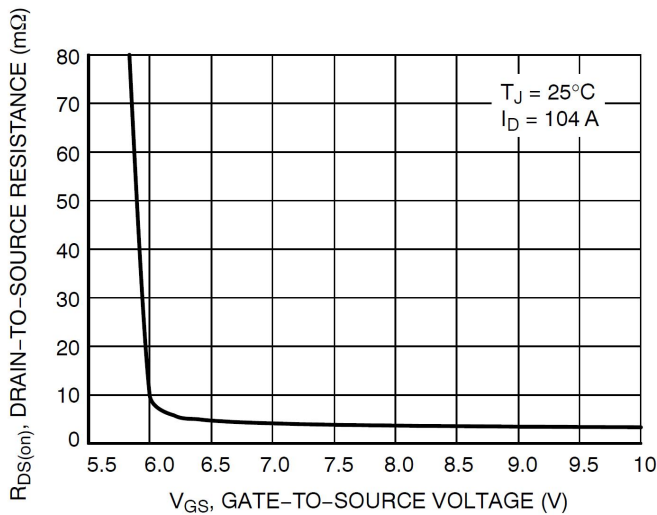
Typical Characteristics



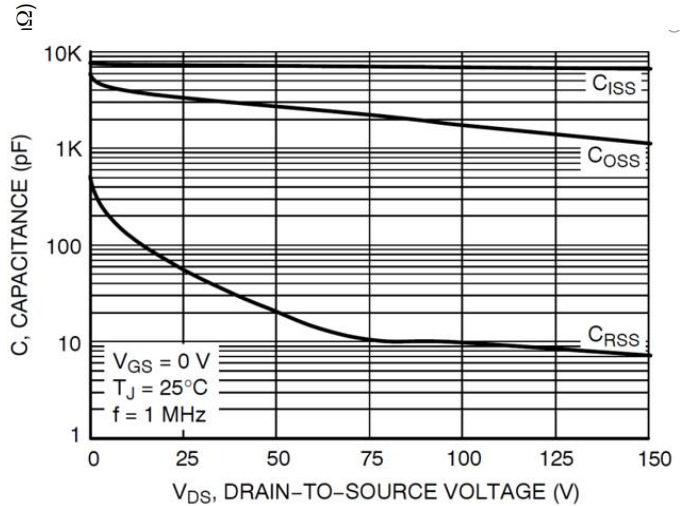
On-Region Characteristics



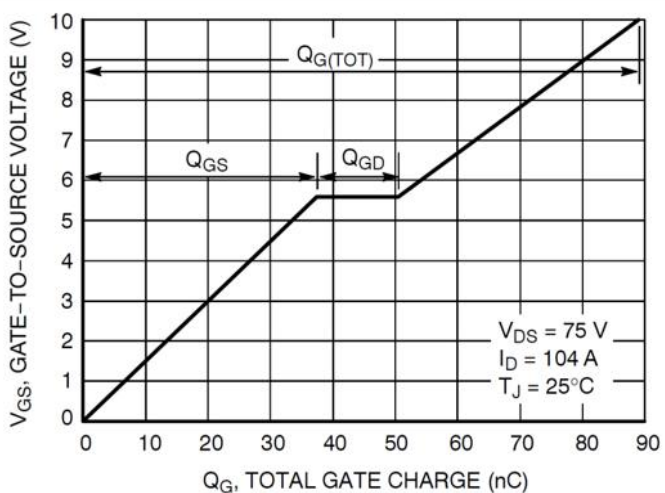
Transfer Characteristics



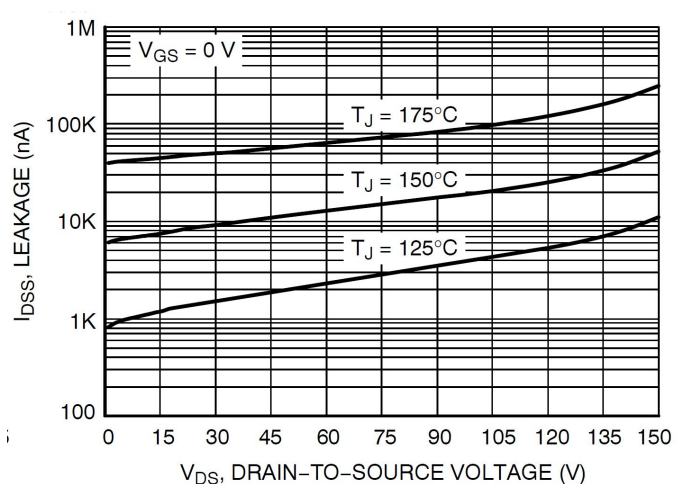
On-Resistance vs. Gate-to-Source Voltage



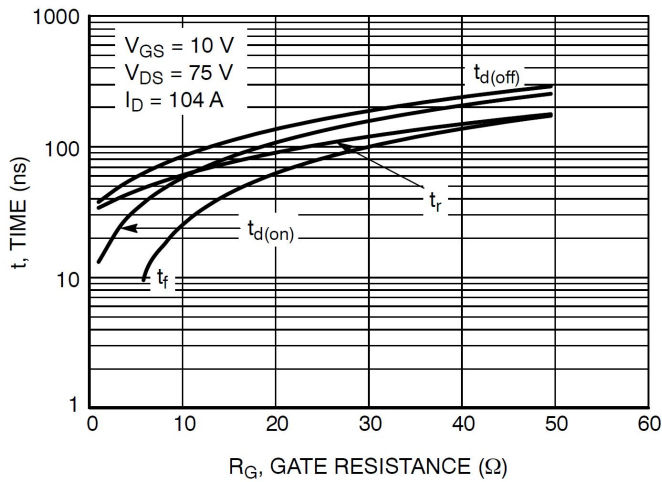
Capacitance Variation



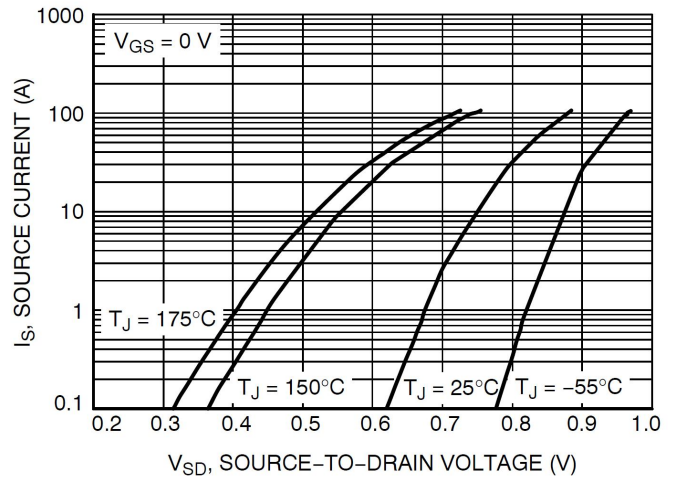
Gate-to-Source Voltage vs. Total Charge



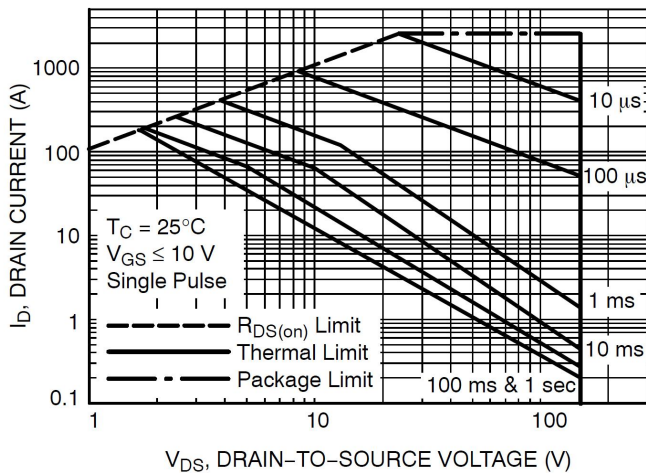
Drain-to-Source Leakage Current vs. Voltage



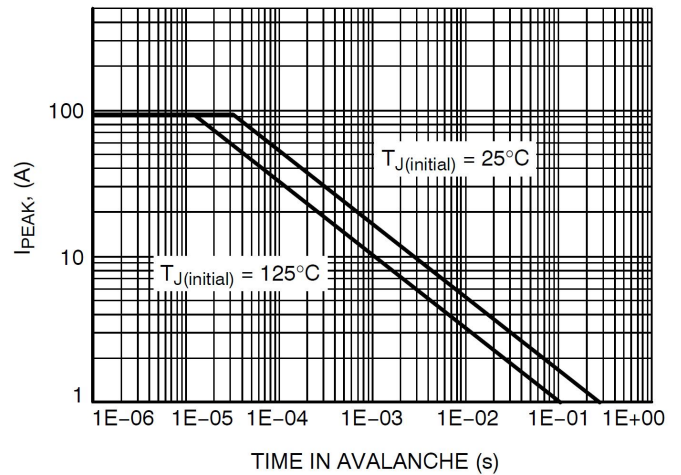
Resistive Switching Time Variation vs. Gate Resistance



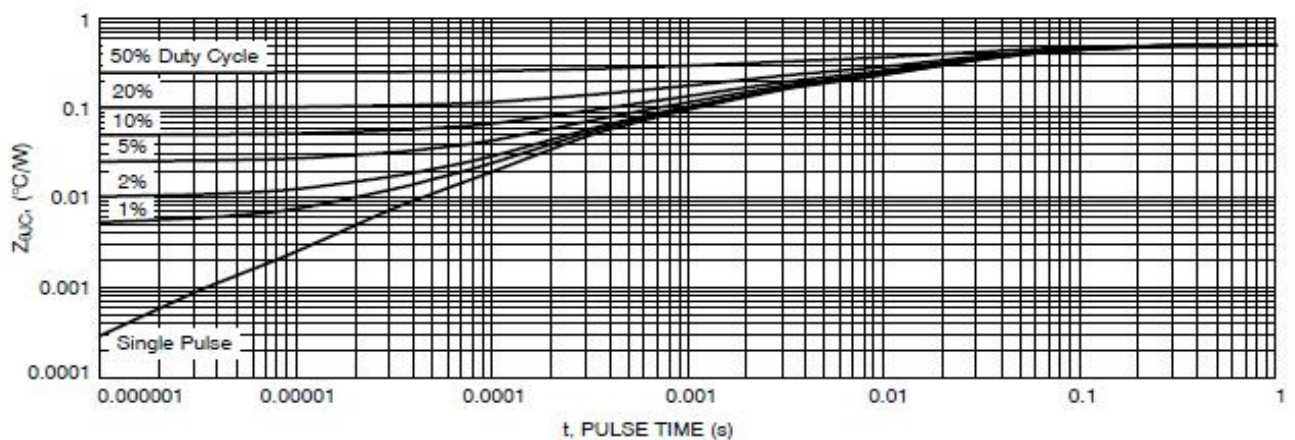
Diode Forward Voltage vs. Current



Maximum Rated Forward Biased Safe Operating Area

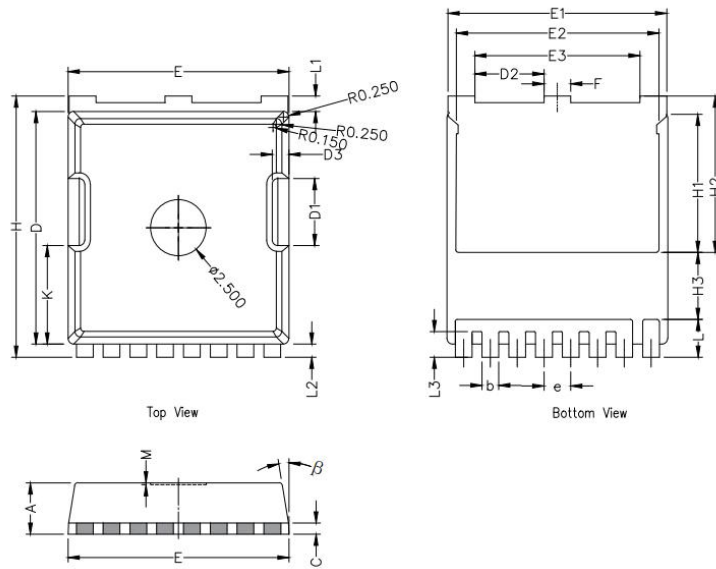


Maximum Drain Current vs. Time in Avalanche



Thermal Response

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



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1.0	2023/12/18		陈志鹏	规格书建立	
批准		审核		编制	
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