Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
150V	6.9mΩ@10V	110A

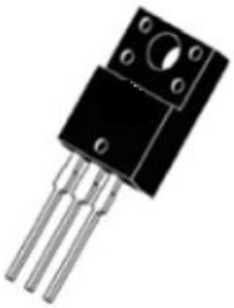
Feature

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

Applications

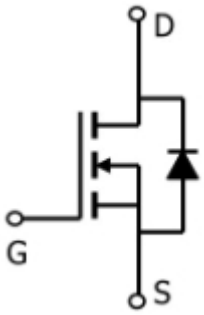
- Power switching application
- DC-DC Converter
- Power Management

Package

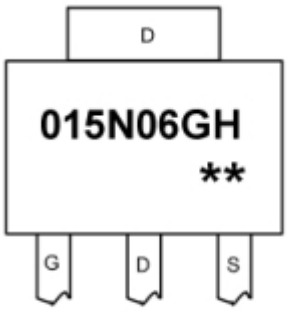


TO-220F(1:G 2:D 3:S)

Circuit diagram



Marking



015N06GH : Product code
** : Week code

Absolute maximum ratings

(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	150	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous drain current (T_C = 25℃)	I_D	110	W
Pulsed Drain Current	I_{DM}	440	A
Power Dissipation (T_C = 25℃)	P_D	375	W
Single Pulse Avalanche Energy [1]	E_{AS}	1056	mJ
Thermal Resistance Junction- Case	$R_{\theta JC}$	0.33	℃/ W
Operation and storage temperature	T_{STG}, T_J,	-55~ +150	℃

Electrical characteristics

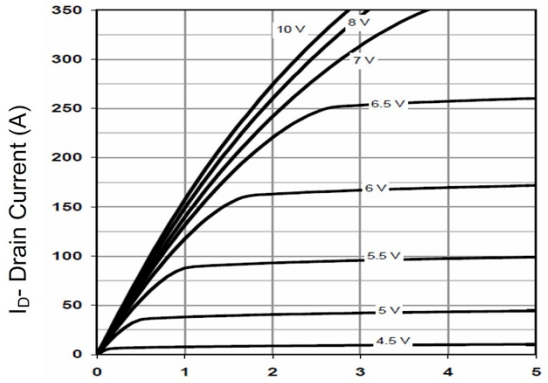
(T_A=25℃, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	BV_{DSS}	V_{GS} = 0V, I_D =250μA	150			V
Drain Cut-Off Current	I_{DSS}	V_{DS} =120V,V_{GS} = 0V			1	uA
Gate-body 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	3	4	V
Drain-Source ON Resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =20A		6.9	8.7	Ω
Dynamic characteristics[4]						
Input Capacitance	C_{iss}	V_{DS}=75V,V_{GS}=0V, f=1MHz		5280		pF
Output Capacitance	C_{oss}			653		
Reverse Transfer Capacitance	C_{rss}			24		
Switching Characteristics						
Total Gate Charge(4.5V)	Q_g	V_{DS}=75V, V_{GS}=10V, I_D=70A		80		nC
Gate-Source Charge	Q_{gS}			33		
Gate-Drain Charge	Q_{gd}			21		
Turn-On Delay Time	$T_{d(on)}$	V_{GS}=10V, V_{DS}=75V, R_L=3Ω, R_G=4.7Ω		26		nS
Rise Time	T_r			35		
Turn-Off Delay Time	$T_{d(off)}$			45		
Fall Time	T_f			17		
Drain-Source Body Diode Characteristics						
Source-Drain Diode Forward Voltage	V_{SD}	I_S = 1A, V_{GS} = 0V			1.2	V

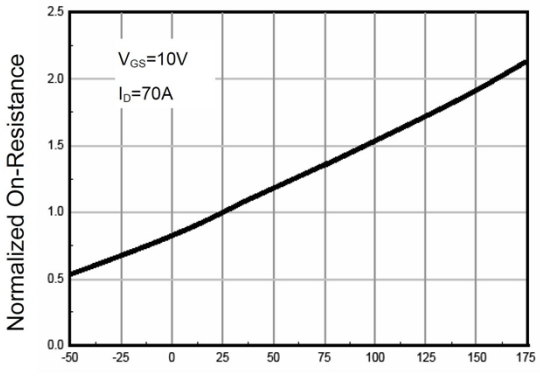
Note :

1. E_{AS} is tested at starting T_j = 25℃, V_{DD} =75V,V_{GS} = 10V,L = 0.5mH, Rg=25Ω ；

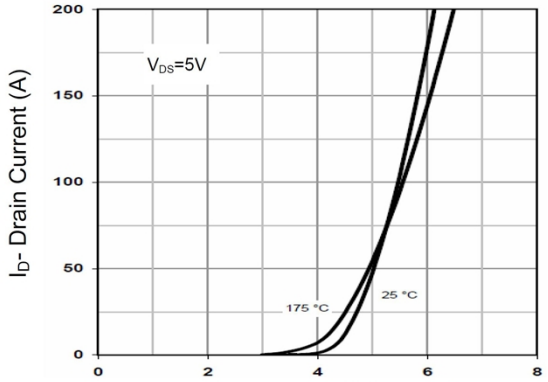
Typical Characteristics



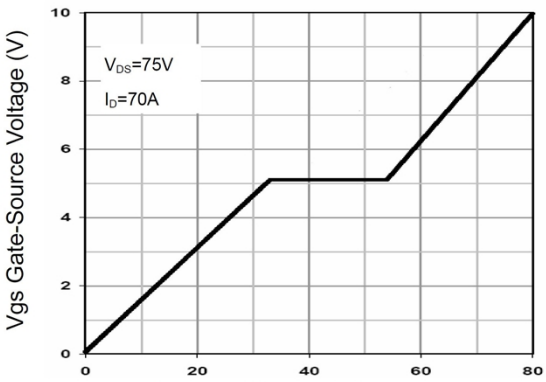
Output Characteristics



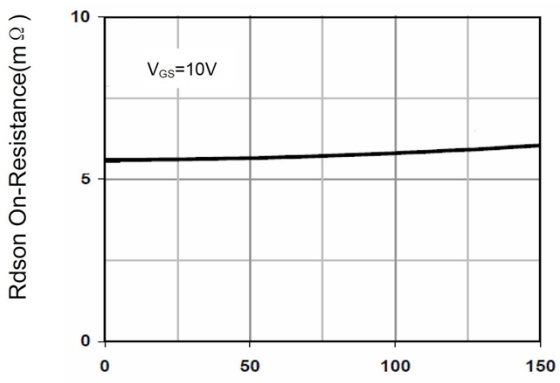
Rdson-JunctionTemperature



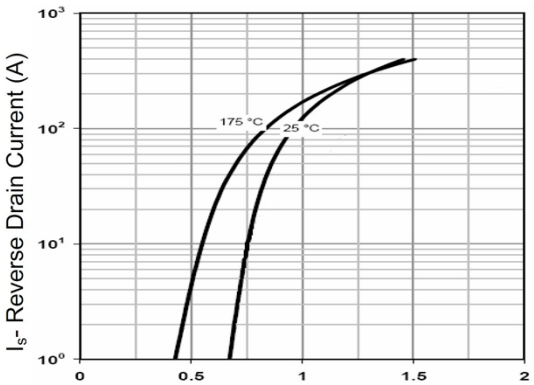
Transfer Characteristics



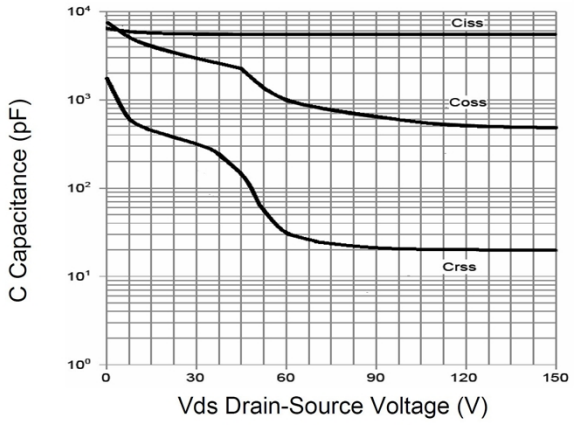
Gate Charge



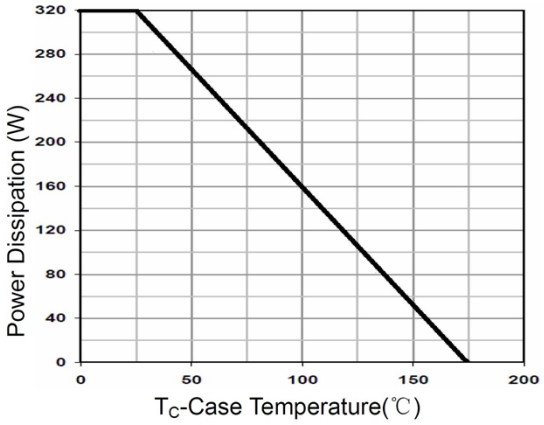
Rdson- Drain Current



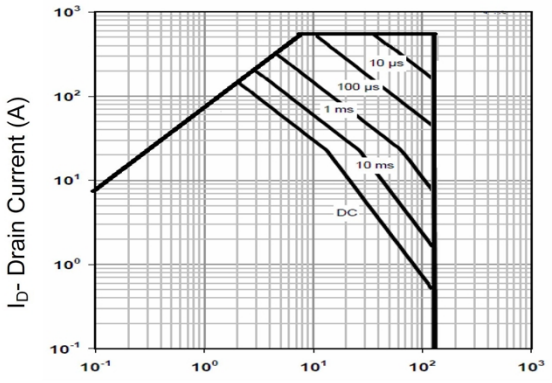
Source- Drain Diode Forward



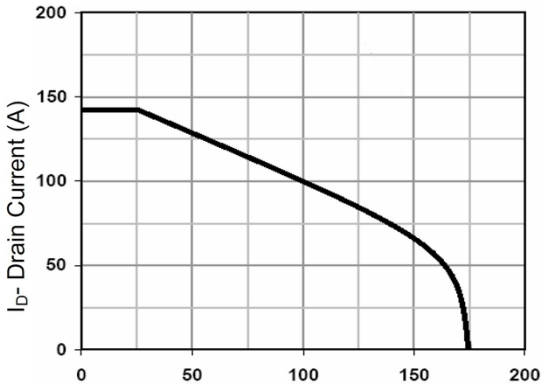
Capacitance vs Vds



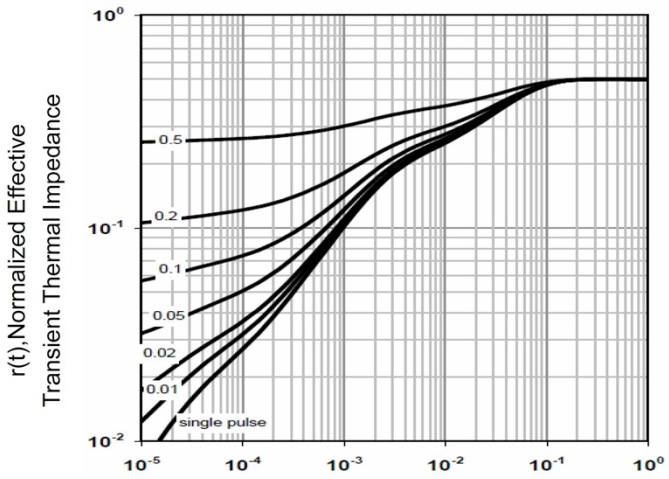
Power De-rating



Safe Operation Area

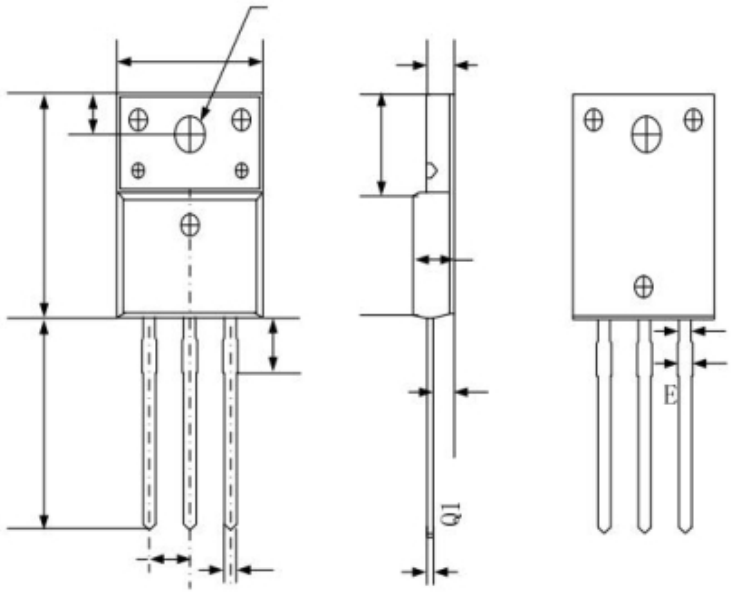


Current De-rating



Normalized Maximum Transient Thermal Impedance

TO-220F Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.50	4.83	0.18	0.19
b	0.70	0.91	0.03	0.04
b1	1.20	1.47	0.05	0.06
b2	1.10	1.38	0.04	0.05
c	0.45	0.63	0.02	0.02
D	15.67	16.07	0.62	0.63
e	2.54 BSC		0.10 BSC	
E	9.96	10.36	0.39	0.41
F	2.34	2.74	0.09	0.11
G	6.48	6.90	0.26	0.27
L	12.68	13.30	0.50	0.52
L1	3.13	3.50	0.12	0.14
Q	2.56	2.93	0.10	0.12
Q1	3.20	3.40	0.13	0.13
ΦR	3.08	3.28	0.12	0.13