

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
150V	6.9mΩ@10V	120A

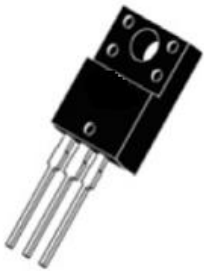
Feature

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

Applications

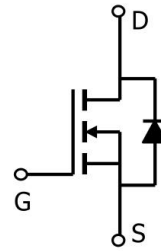
- Power switching application
- DC-DC Converter
- Power Management

Package

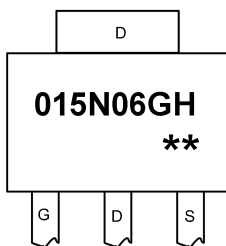


TO-220F(1:G 2:D 3:S)

Circuit diagram



Marking



015N06GH : Product code
****** : Week 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	120	A
Pulsed drain current	I_{DM}	480	A
Power dissipation(Tc=25°C)	P_D	375	W
Single pulsed avalanche energy ¹⁾	E_{AS}	1056	mJ
Thermal resistance, junction-case	$R_{\theta JC}$	0.33	°C/W
Operation and storage temperature	T_{stg}, T_j	-55 to 150	°C

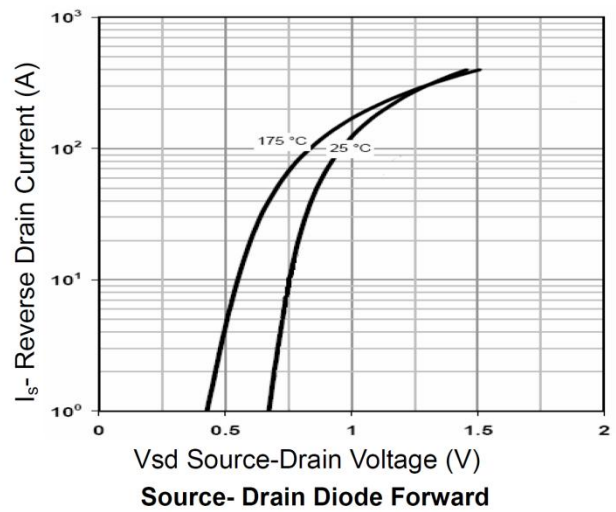
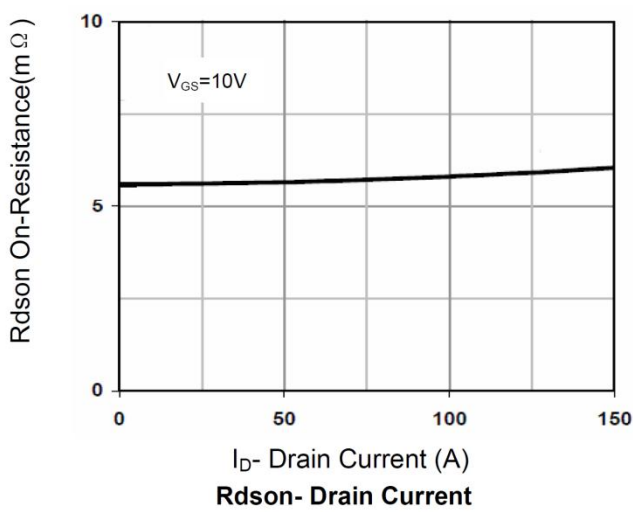
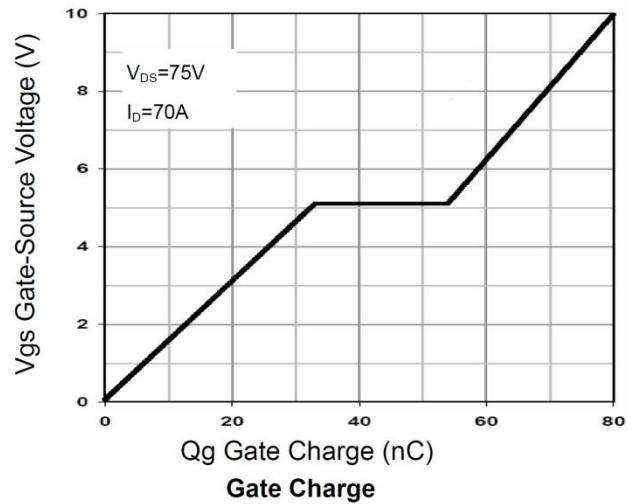
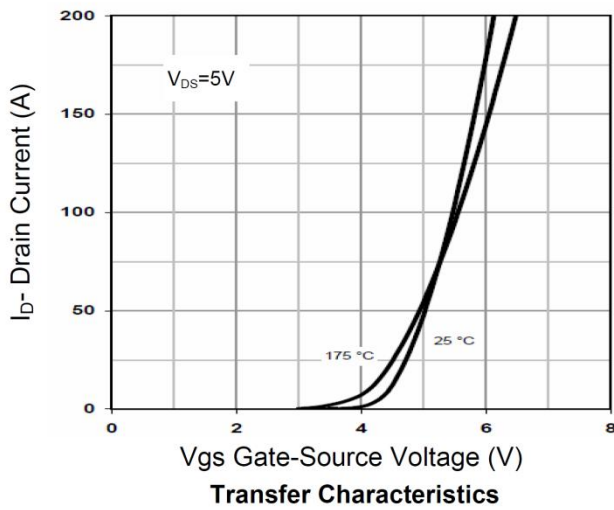
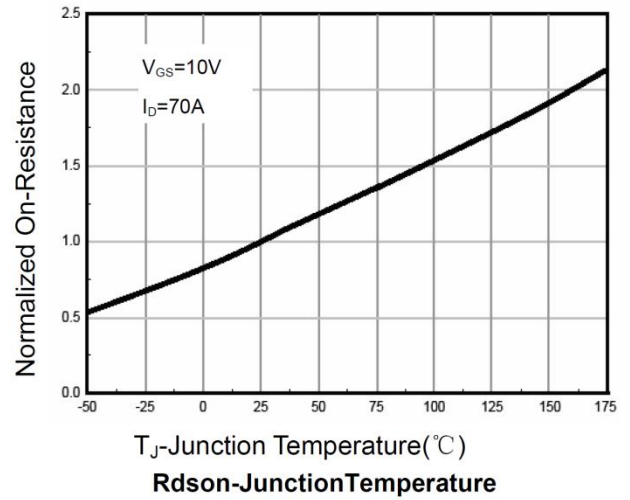
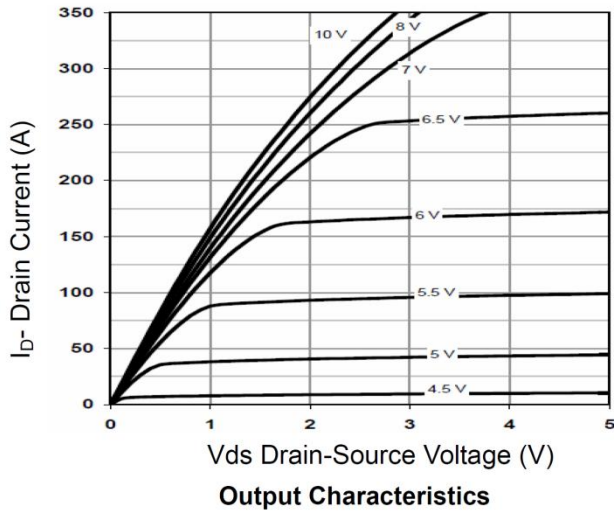
Electrical characteristics (Ta=25°C, unless otherwise noted)

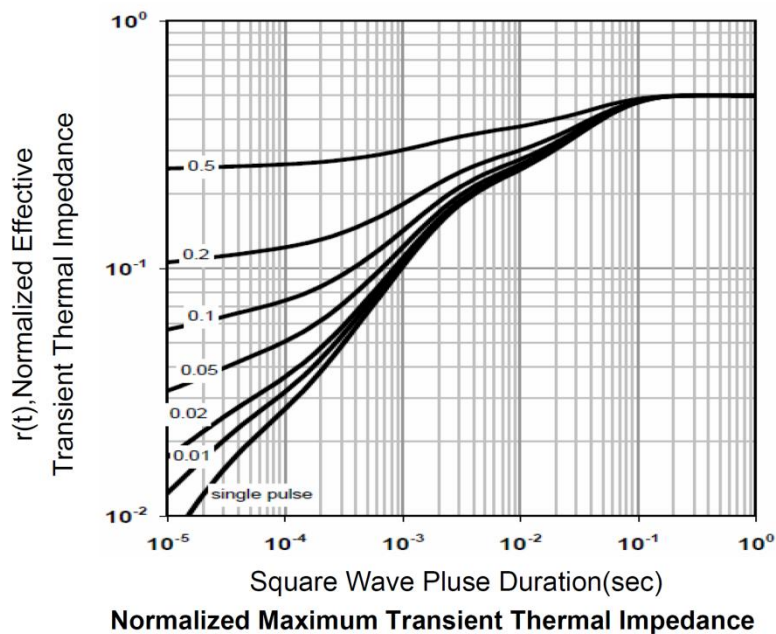
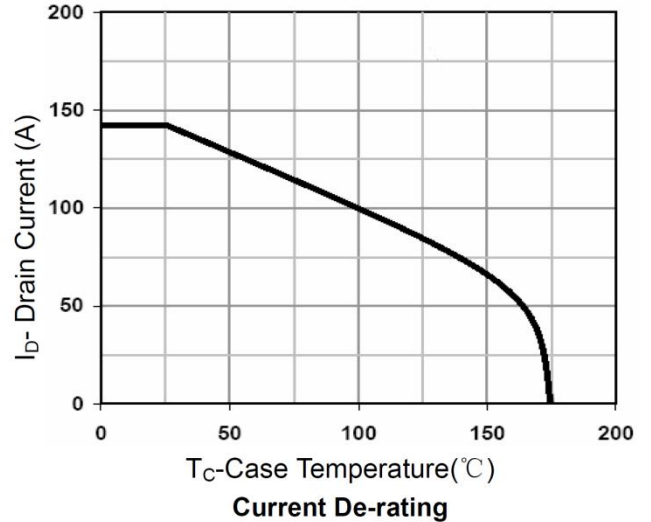
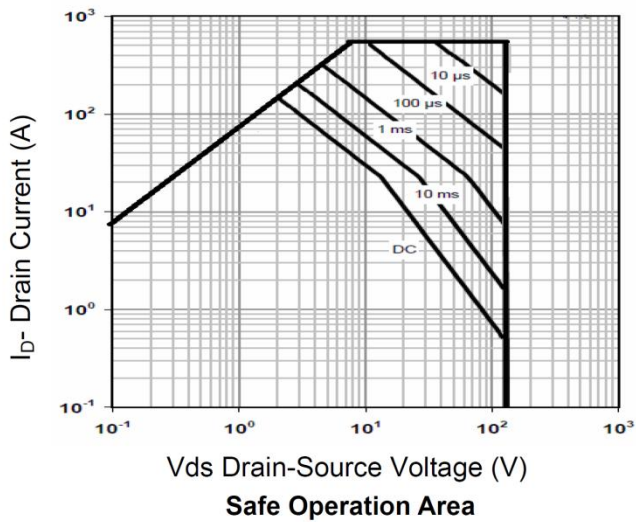
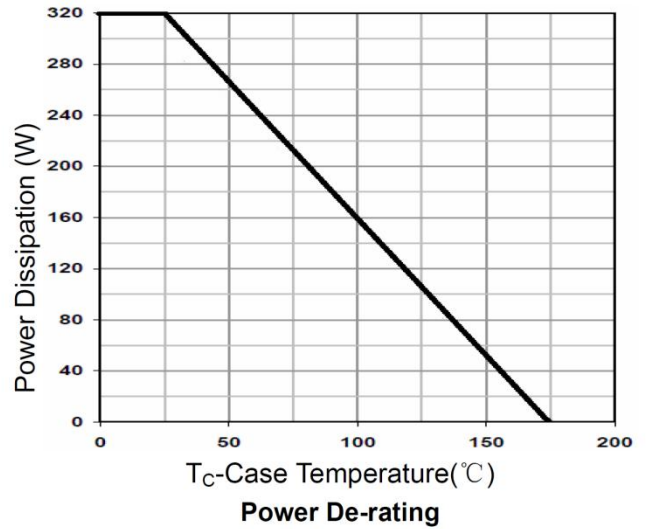
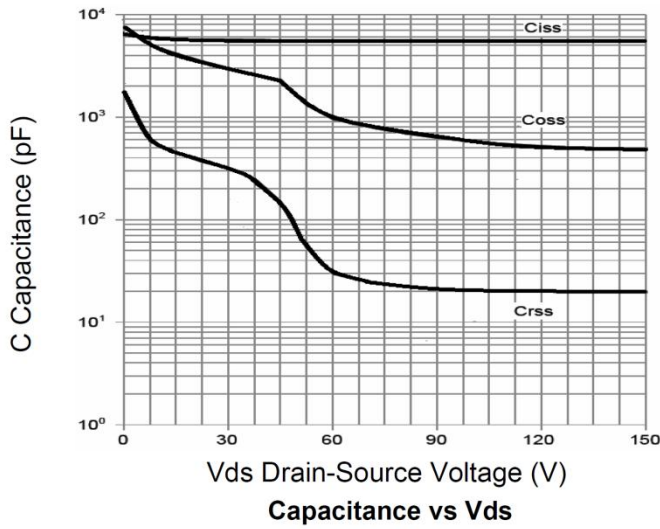
Characteristics	Symbol	Test Condition	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D = 250\mu A, V_{GS} = 0V$	150	-	-	V
Drain Cut-Off Current	I_{DSS}	$V_{DS} = 120V, V_{GS} = 0V$	-	-	1	μA
Gate Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$	-	-	± 0.1	
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	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 20A$	-	6.9	8.7	m Ω
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS} = 75V, V_{GS} = 0V, f = 1.0MHz$	-	5280	-	μF
Output Capacitance	C_{oss}		-	653	-	
Reverse Transfer Capacitance	C_{rss}		-	24	-	
Switching Characteristics						
Total Gate Charge	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	$t_{d(on)}$	$V_{GS} = 10V, V_{DS} = 75V, R_L = 3\Omega, R_G = 4.7\Omega$	-	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:

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

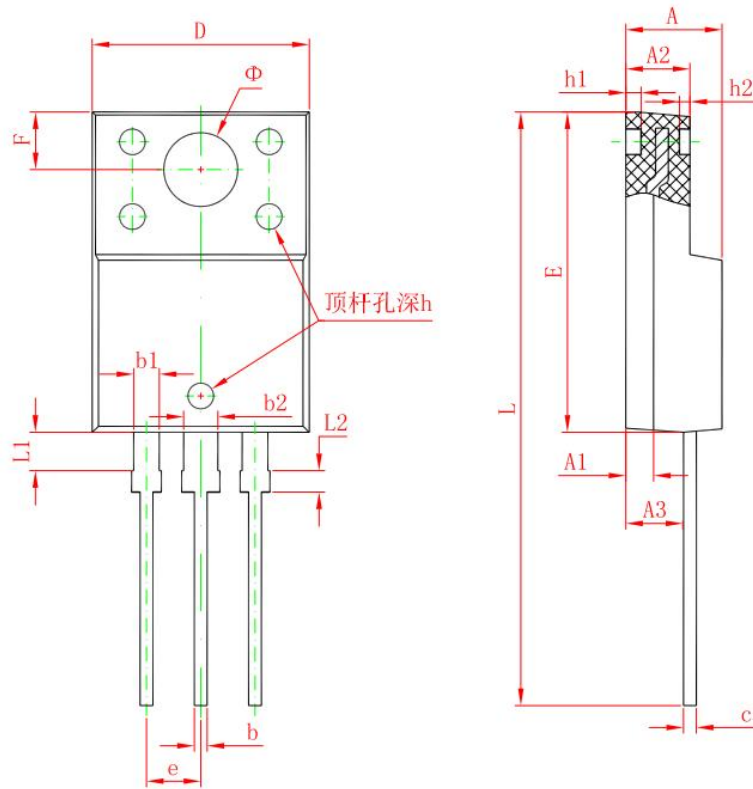
Typical Characteristics







TO-220F Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	4.300	4.700
A1	1.300 REF.	
A2	2.800	3.200
A3	2.500	2.900
b	0.500	0.750
b1	1.100	1.350
b2	1.500	1.750
c	0.500	0.750
D	9.960	10.360
E	14.800	15.200
e	2.540 TYP.	
F	2.700 REF.	
Φ	3.500 REF.	
h	0.000	0.300
h1	0.800 REF.	
h2	0.500 REF.	
L	28.000	28.400
L1	1.700	1.900
L2	0.900	1.100

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