

7.0A, 700V,  $R_{DS(on)(T_p)} = 1.2 @ V_{GS}=10V$

Low Gate Charge

Low  $C_r$

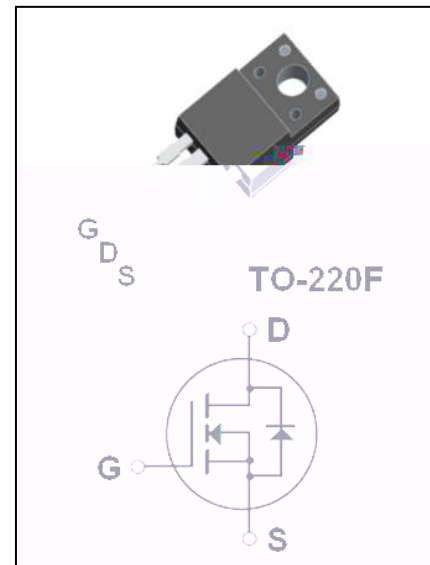
100% Avalanche Tested

Fast Switching

Improved d/d Capabili

High Frequency Switching Mode Power Supply

Active Power Factor Correction



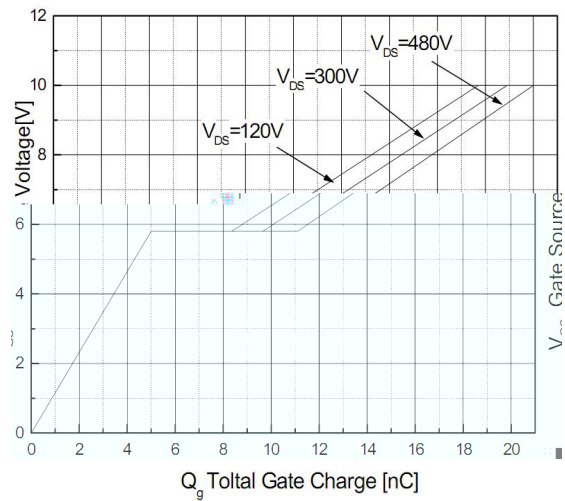
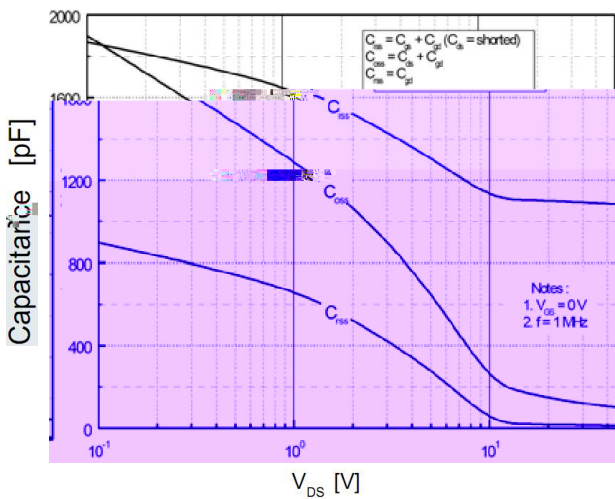
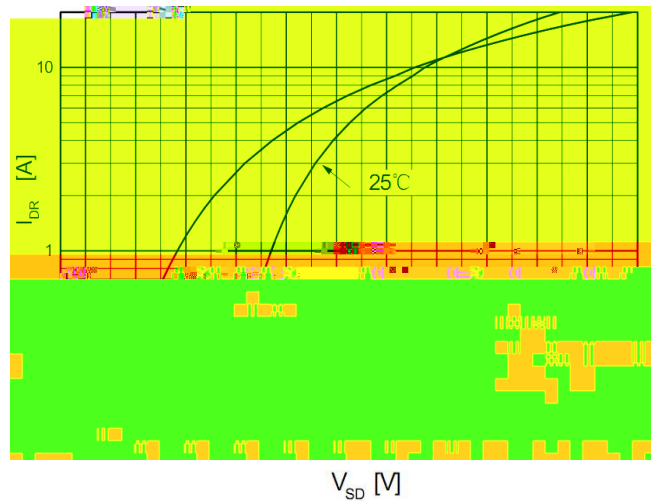
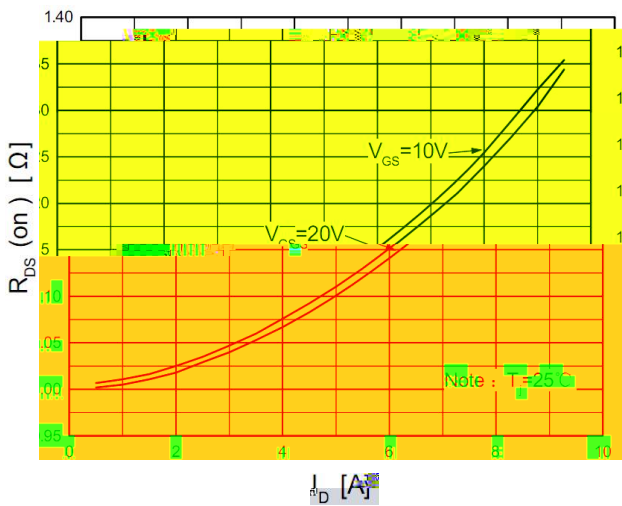
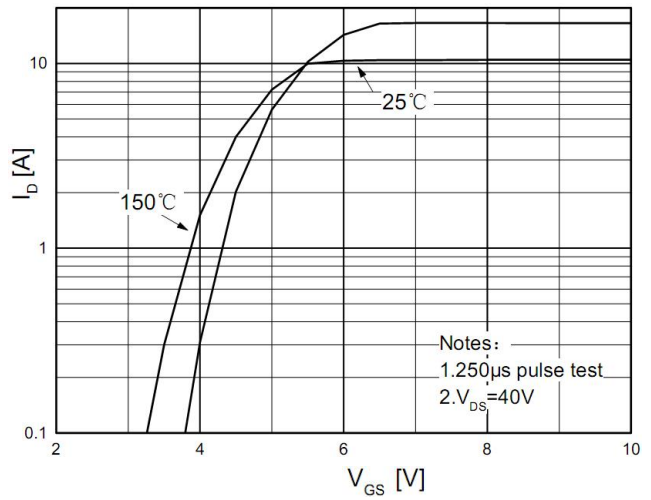
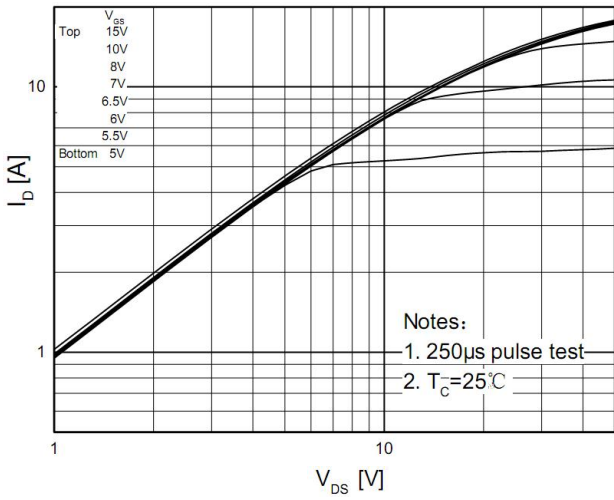
( $T_c=25^\circ\text{C}$  unless otherwise noted)

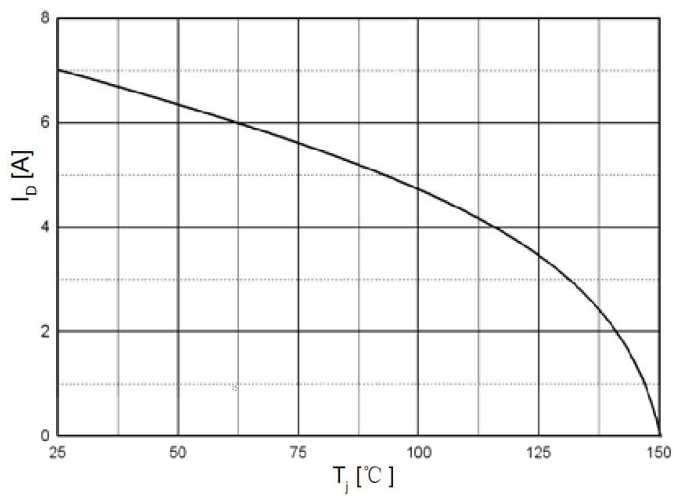
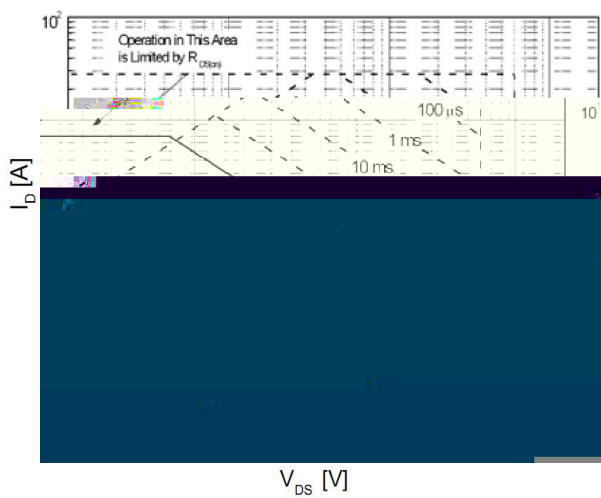
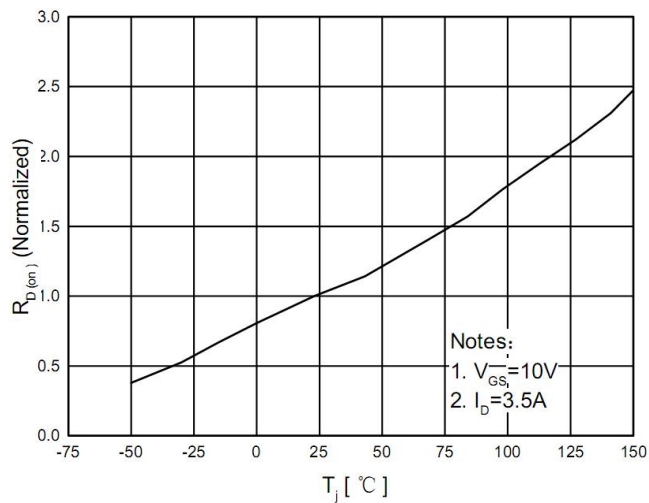
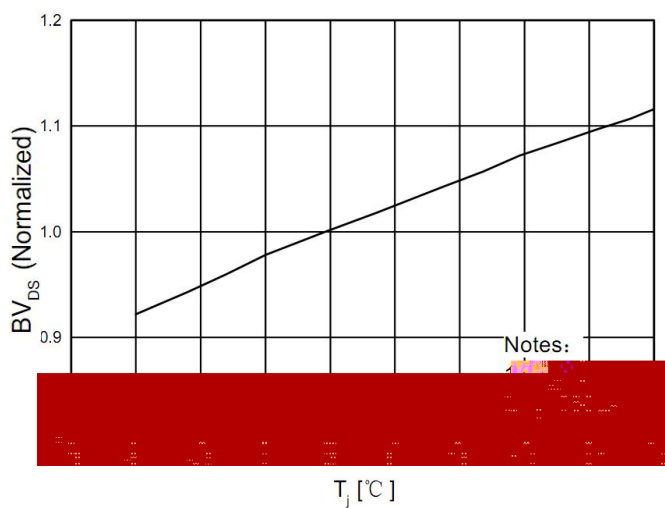
Symbol	Parameter	Value	Unit
$V_{DSS}$	Drain-Source Voltage	700	V
$I_D$	Drain Current - Continuous - Continuous ( $T_c=25^\circ\text{C}$ ) - Continuous ( $T_c=100^\circ\text{C}$ )	7.0*	A
		4.5*	A
$I_{DM}$	Drain Current - Pulsed (Note 1)	28*	A
$V_{GSS}$	Gate-Source Voltage	$\pm 30$	V
$E_{AS}$	Single Pulsed Avalanche Energy (Note 2)	590	mJ
$I_{AR}$	Avalanche Current (Note 1)	7.0	A
$E_{AR}$	Repetitive Avalanche Energy (Note 1)	14.0	mJ
d/d	Peak Diode Recovery d/d (Note 3)	4.5	V/n
$P_D$	Power Dissipation ( $T_c = 25^\circ\text{C}$ ) - Derate above $25^\circ\text{C}$	48	W
		0.38	W/ $^\circ\text{C}$
$T_j$	Operating Junction Temperature	150	$^\circ\text{C}$
$T_g$	Storage Temperature Range	-55 to +150	$^\circ\text{C}$

Drain Current Limited by Maximum Junction Temperature.

Symbol	Parameter	Max	Unit
$R_{JC}$	Thermal Resistance, Junction to Case	2.6	$^\circ\text{C}/\text{W}$
$R_{JA}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C}/\text{W}$

(Tc=25°C unless otherwise noted)							
Symbol	Parameter	Test Condition	Min	Typ	Max	Unit	
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V, I <sub>D</sub> =250 A	700	--	--	V	
ΔBV <sub>DSS</sub> /ΔT <sub>J</sub>	Breakdown Voltage Temperature Coefficient	I <sub>D</sub> =250 A (Referenced to 25°C)	--	0.7	--	V/°C	
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =700V, V <sub>GS</sub> =0V	--	--	1	A	
		V <sub>DS</sub> =560V, Tc=125°C	--	--	10	A	
I <sub>GSSF</sub>	Gate-Body Leakage Current, Forward	V <sub>GS</sub> =+30V, V <sub>DS</sub> =0V	--	--	100	nA	
I <sub>GSSR</sub>	Gate-Body Leakage Current, Reverse	V <sub>GS</sub> =-30V, V <sub>DS</sub> =0V	--	--	-100	nA	
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250 A	2.0	--	4.0	V	
R <sub>DS(on)</sub>	Static Drain-Source On-Resistance	V <sub>GS</sub> =10 V, I <sub>D</sub> =3.5A	--	1.2	1.4		
g <sub>FS</sub>	Forward Transconductance	V <sub>DS</sub> =40 V, I <sub>D</sub> =3.5A (Note 4)	--	6.5	--	S	
C <sub>i</sub>	Input Capacitance		--	1380	--	pF	
C <sub>o</sub>	Output Capacitance	V <sub>DS</sub> =25V, V <sub>GS</sub> =0V, f=1.0MHz	--	170	--	pF	
C <sub>r</sub>	Reverse Transfer Capacitance		--	15	--	pF	
t <sub>d(on)</sub>	Turn-On Delay Time		--	13	--	n	
t <sub>r</sub>	Turn-On Rise Time	V <sub>DD</sub> = 350 V, I <sub>D</sub> = 7.0 A, R <sub>G</sub> = 25 (Note 4,5)	--	100	--	n	
t <sub>d(off)</sub>	Turn-Off Delay Time		--	126	--	n	
t <sub>f</sub>	Turn-Off Fall Time		--	48	--	n	
Q <sub>g</sub>	Total Gate Charge	V <sub>DS</sub> = 560 V, I <sub>D</sub> = 7.0 A		S	Q		





UNIT: mm

SYMBOL	min	nom	ma	SYMBOL	min	nom	ma
A	9.80		10.60	D		2.54	
A1		7.00		D1	1.15		1.55
A2	2.90		3.40	D2	0.60		1.00
A3	9.10		9.90	D3	0.20		0.50
B1	15.40		16.40	E	2.24		2.84
B2	4.35		4.95	E1		0.70	
B3	6.00		7.40	E2		1.0 45	
C	3.00		3.70	E3	0.35		0.65
C1	15.00		17.00	E4	2.30		3.30
C2	8.80		10.80			30	

