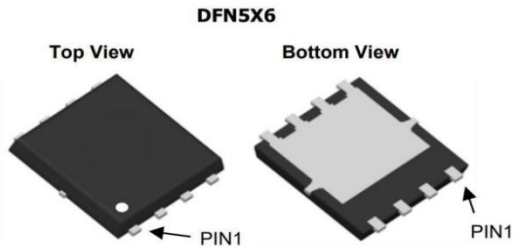
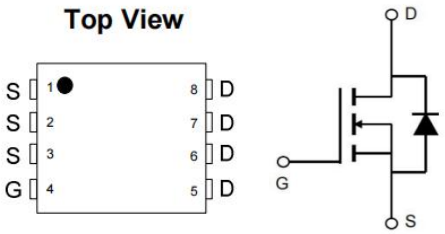
Product Summary

$V_{(BR)DSS}$	$R_{DS(ON)}$ max	I_D max
60V	＜5.0mΩ @V_{GS}=10V	95A
	<5.5mΩ@V_{GS}=4.5V	

Package & Internal Circuit





Description and Applications

- BLDC Motor drive applications
- Brushed Motor drive applications
- DC/DC and AC/DC converters
- OR-ing and redundant power switches
- 100% UIS Tested
- High voltage H bridge PWM motor drive

Ordering Information

Part Number	Package Type	Package Qty
CFN3R6N60	DFN5x6	3,000/Tape & Reel

Marking Information

Green product

CFXP--Logo
3R6N60--Part Number
F-Fab location
A-Assembly location
Y--Year
W--Week
LT--Lot sequence

Absolute Maximum Rating (Tamb=25°C unless otherwise noted)

Parameter		Symbol	Value	Units
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	±20	V
Drain Current - Continuous	T_C=25°C	I_D	95	A
	T_C=100°C		65	A
Lease pulse current		I_{DM}	380	A
Single Pulse Avalanche Energy	L=0.1mH	E_{AS}	177	mJ
Power Dissipation	T_C=25°C	P_D	72	W
Operating and Storage Temperature Range		T_J ,T_{STG}	-55 to 150	°C

Thermal Characteristics

Parameter	Symbol	Typ	Max	Units
Maximum Junction-to-Ambient	$R_{\theta JA}$		52.5	°C/W
Maximum Junction-to-Case	$R_{\theta JC}$		1.7	°C/W

Electrical Characteristics (T_a=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Static Parameters						
BV_{DSS}	Drain-Source Breakdown Voltage	I_D= 250μA, V_{GS}=0V	60			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=60V, V_{GS}=0V			1	μA
		V_{DS}=60V, V_{GS}=0V			100	μA
I_{GSS}	Gate-Body leakage current	V_{DS}=0V, V_{GS}= ±20V			±100	nA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=250μA	1.2	1.7	2.4	V
$R_{DS(ON)}$	Drain-Source on-Resistance	V_{GS}=10V, I_D=20A		3.6	5.0	mΩ
		V_{GS}=4.5V, I_D=10A		4.8	5.5	mΩ
V_{SD}	Body Diode Forward Voltage	I_S = 20A,V_{GS} = 0V			1.4	V
Dynamic parameters						
C_{iss}	Input Capacitance	V_{GS}=0V V_{DS}=30V f=1.0MHz		2150		pF
C_{oss}	Output Capacitance			753		pF
C_{rss}	Reverse Transfer Capacitance			41		pF
Switching Parameters						
Q_g	Total Gate Charge	V_{GS}=10V V_{DS}=30V I_D=20A		40		nC
Q_{gs}	Gate Source Charge			6.5		nC
Q_{gd}	Gate Drain Charge			9.1		nC
$t_{D(on)}$	Turn-On Delay Time	V_{GS}=10V V_{DS}=30V I_D=20A R_G=3Ω		11		ns
t_r	Turn-On Rise Time			9.0		ns
$t_{D(off)}$	Turn-Off Delay Time			31		ns
t_f	Turn-Off Fall Time			12.3		ns

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

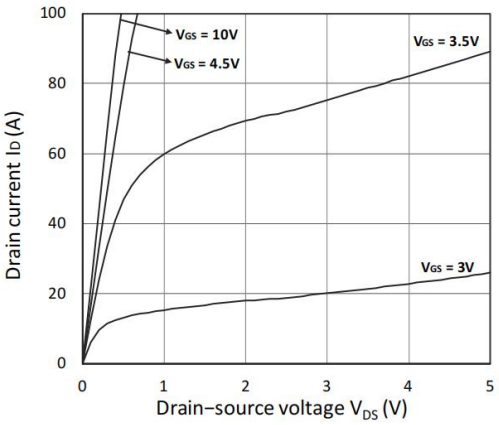


Figure 1: Output Characteristics

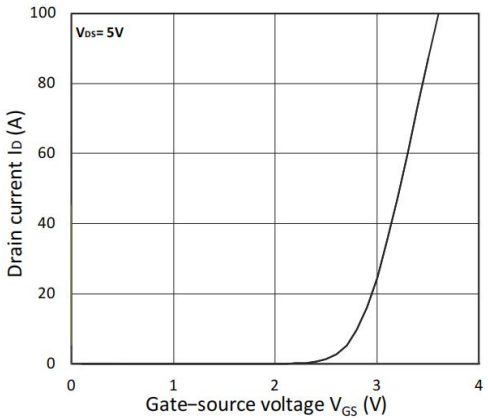


Figure 2: Transfer Characteristics

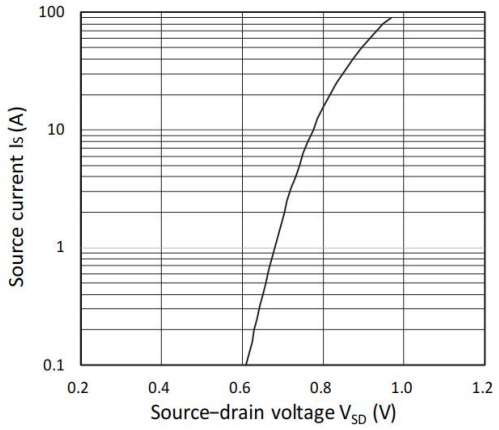


Figure 3: Forward characteristics of reverse

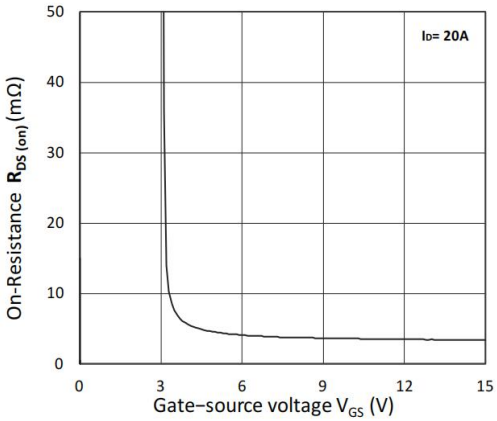


Figure 4: $RD_{S(ON)}$ vs.V_{GS}

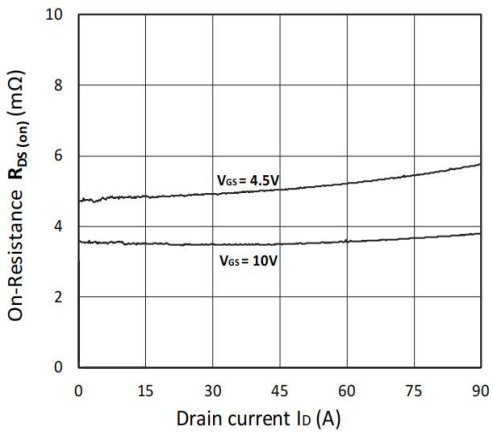


Figure 5: $RD_{S(ON)}$ vs.I_D

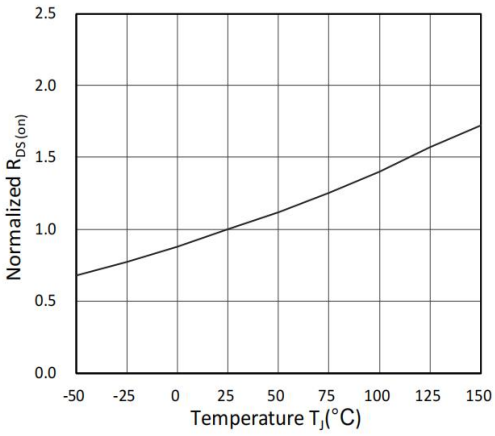


Figure 6: Normalized $RD_{S(ON)}$ vs.Termperature

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

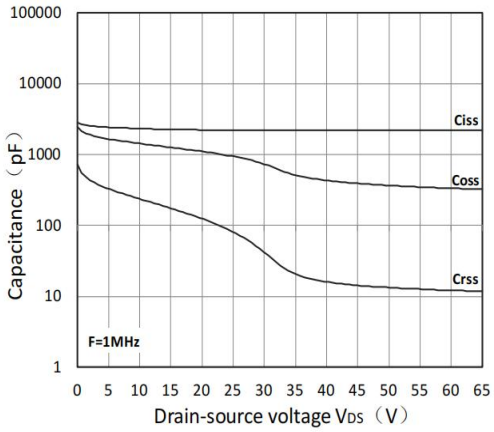


Figure 7: Capacitance Characteristics

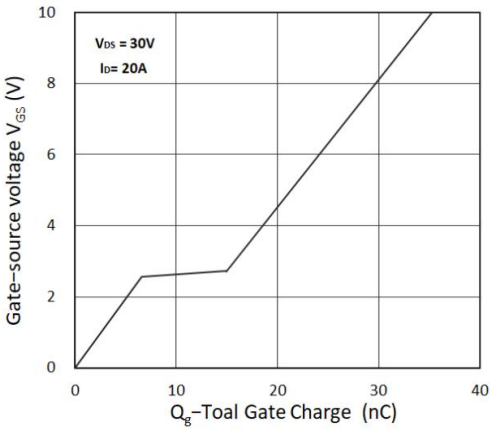


Figure 8: Gate-Charge Characteristics

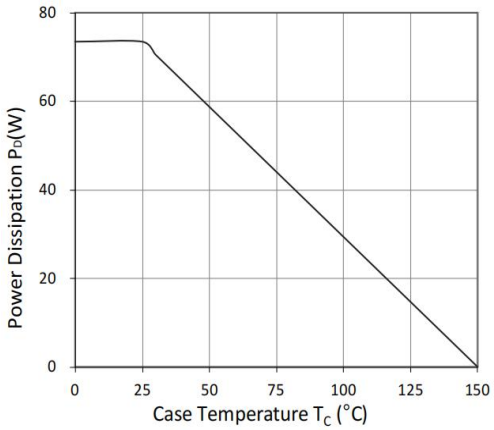


Figure 9: Power dissipation

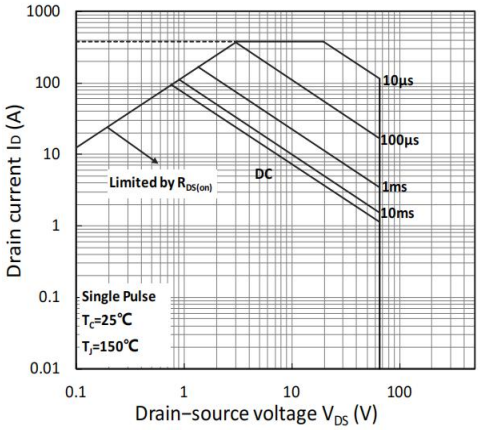


Figure 10: Safe operating area

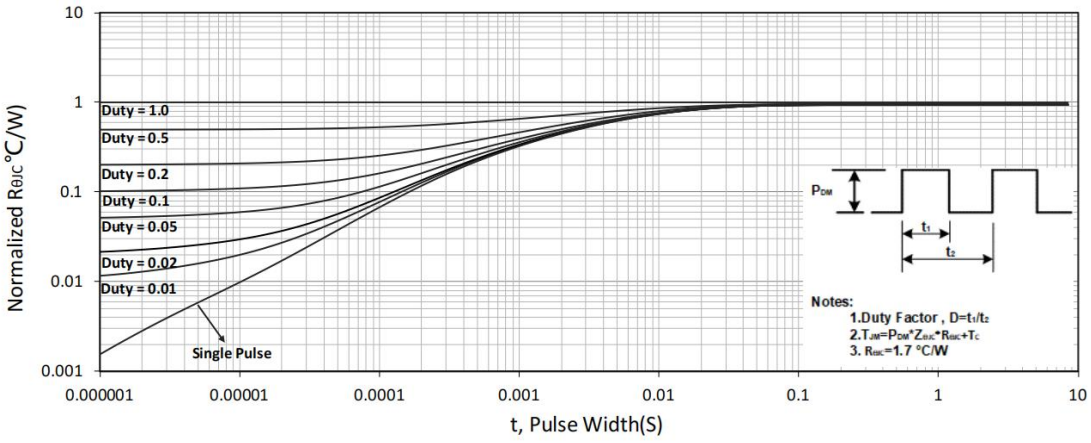
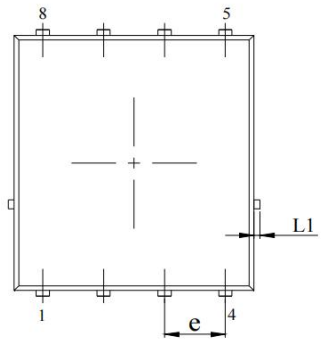
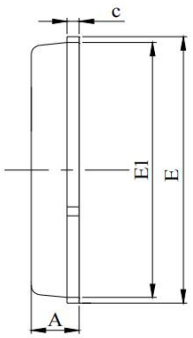


Figure 11: Normalized Maximum Transient Thermal Impedance

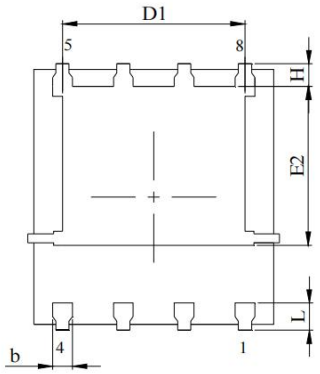
DFN5x6 Package



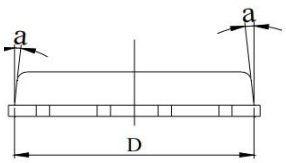
Top View



Side View



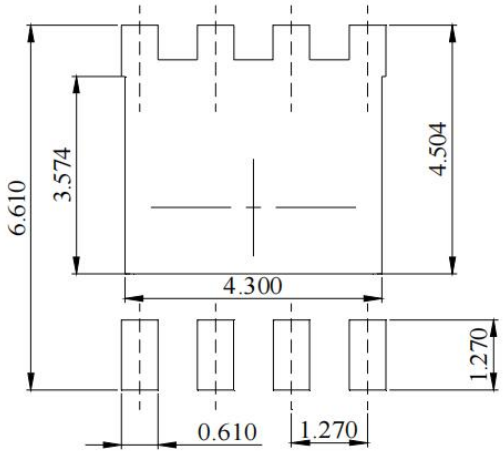
Bottom View



Front View

DIM.	MILLIMETER	
	MIN.	MAX.
A	0.90	1.20
b	0.33	0.51
c	0.23	0.33
D	4.80	5.40
D1	3.61	4.25
E	5.90	6.30
E1	5.55	5.95
E2	3.35	3.95
e	1.27 BSC	
H	0.41	0.80
L	0.51	0.80
L1	-	0.15
a	0°	12°

Recommended Soldering Footprint



DIMENSIONS: MILLIMETERS

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