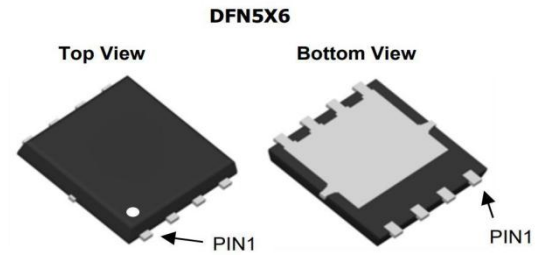




Product Summary

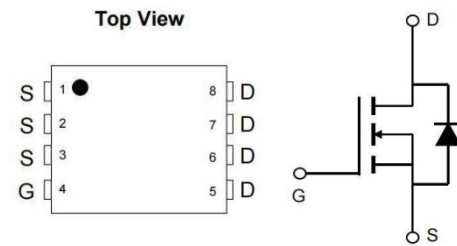
$V_{(BR)DSS}$	$R_{DS(ON)} \text{ max}$	$I_D \text{ max}$
30V	$<2.9\text{m}\Omega @ V_{GS}=10\text{V}$	110A
	$<5.5\text{m}\Omega @ V_{GS}=4.5\text{V}$	

Package & Internal Circuit



Description and Applications

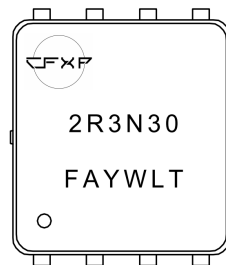
- Low Gate Charge
- RoHS and Halogen-Free Compliant
- Low $R_{DS(ON)}$
- High Frequency Switching and Synchronous



Ordering Information

Part Number	Package Type	Package Qty
CFN2R3N30	DFN5x6	5,000/Tape & Reel

Marking Information



Green product

CFXP--Logo
2R3N30--Part Number
F--Fab location
A--Assembly location
Y--Year
W--Week
LT--Lot sequence

Absolute Maximum Rating ($T_{amb}=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Units
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current - Continuous	I_D	110	A
Pulsed Drain Current	I_{DM}	436	A
Single Pulse Avalanche Energy $L=0.1\text{mH}$	E_{AS}	289	mJ
Power Dissipation $T_a=25^{\circ}\text{C}$	P_D	79	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}\text{C}$

Thermal Characteristics

Parameter	Symbol	Typ	Max	Units
Maximum Junction-to-Case	$R_{\theta JC}$		1.9	°C/W

Electrical Characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Static Parameters						
BV _{DSS}	Drain-Source Breakdown Voltage	I _D = 250μA, V _{GS} =0V	30			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =30V, V _{GS} =0V			1	μA
		T _J =55℃			5	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	1.0	1.5	2.5	V
R _{DS(ON)}	Drain-Source on-Resistance	V _{GS} =10V, I _D =20A		2.3	2.9	mΩ
		V _{GS} =4.5V, I _D =20A		4.7	5.5	mΩ
g _{FS}	Forward Transconductance	V _{DS} = 5V, I _D =20A		23.5		S
V _{SD}	Body Diode Forward Voltage	I _S = 20A,V _{GS} = 0V			1.2	V
I _S	Maximum Body-Diode Continuous Current				108	A
Dynamic parameters						
C _{iss}	Input Capacitance	V _{GS} =0V V _{DS} =15V f=1.0MHz		3100		pF
C _{oss}	Output Capacitance			370		pF
C _{rss}	Reverse Transfer Capacitance			249		pF
Switching Parameters						
Q _g	Total Gate Charge	V _{GS} =10V V _{DS} =15V I _D =20A		56.2		nC
Q _{gs}	Gate Source Charge			7.5		nC
Q _{gd}	Gate Drain Charge			15.8		nC
t _{D(on)}	Turn-On Delay Time	V _{GS} =10V V _{DS} =15V R _L =0.75Ω R _G =3Ω		25		ns
t _r	Turn-On Rise Time			21		ns
t _{D(off)}	Turn-Off Delay Time			50		ns
t _f	Turn-Off Fall Time			27		ns
t _{rr}	Body Diode Reverse Recovery Time	I _F =20A di/dt =100A/μs		56		ns
Q _{rr}	Body Diode Reverse Recovery Charge			42		nC

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

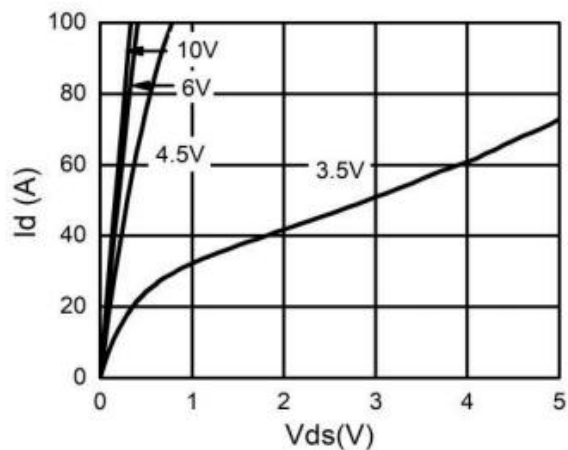


Figure 1: On-Region Characteristics

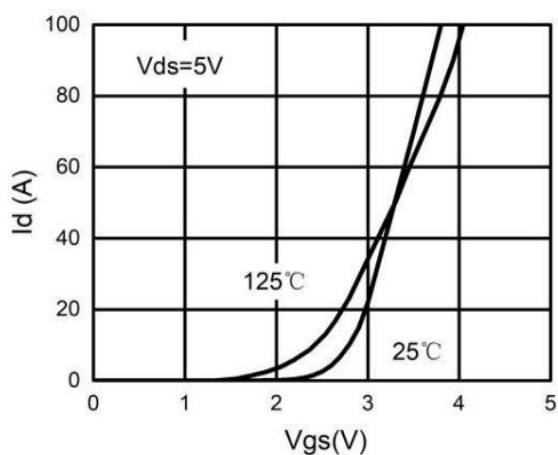


Figure 2: Transfer Characteristics

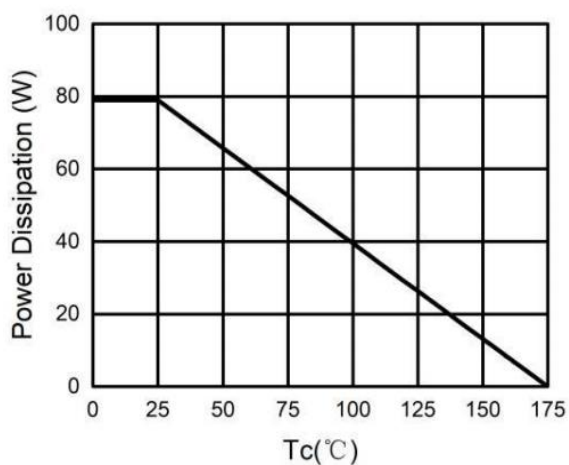


Figure 3: Power Dissipation

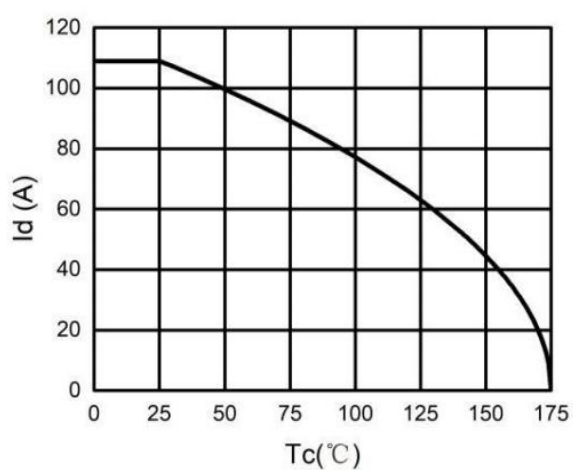


Figure 4: Drain Current

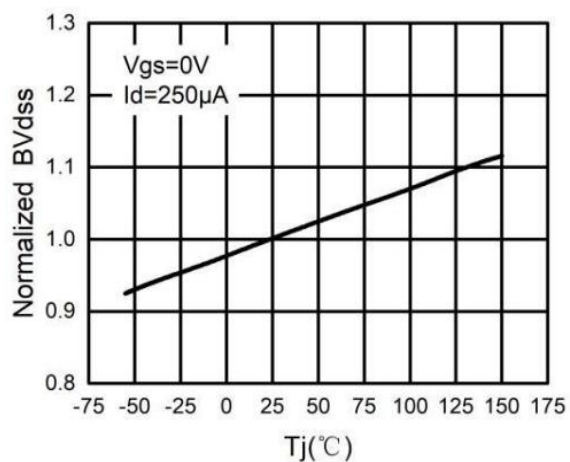


Figure 5: BV_{DSS} vs Junction Temperature

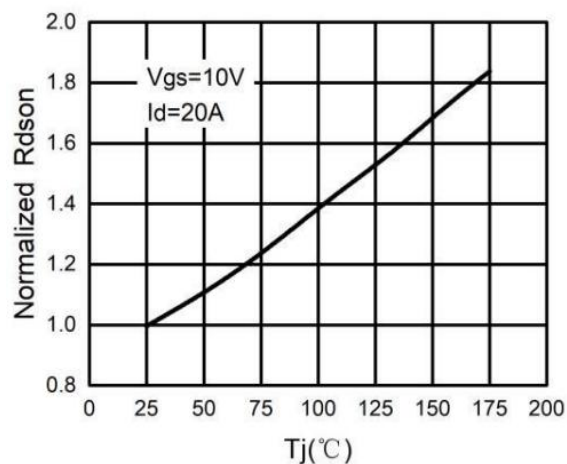


Figure 6: $R_{DS(ON)}$ vs Junction Temperature

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

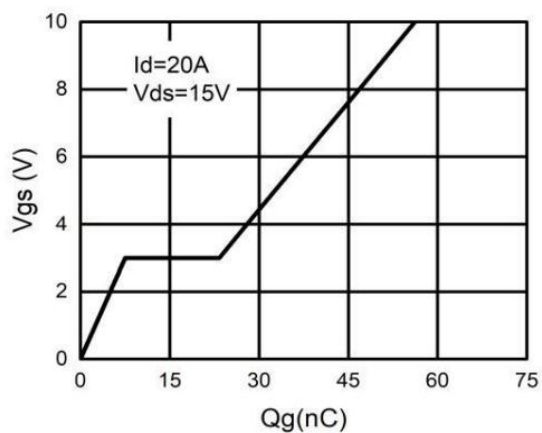


Figure 7: Gate-Charge Characteristics

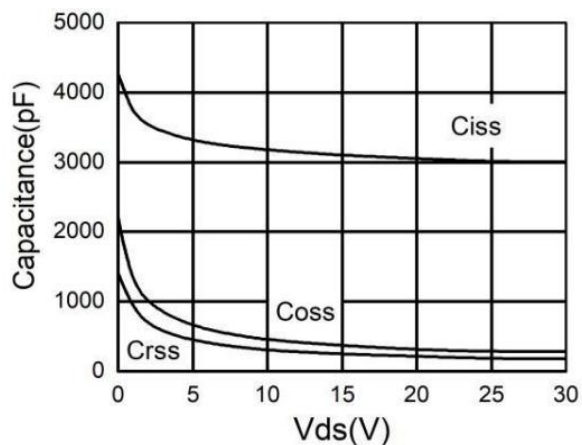


Figure 8: Capacitance Characteristics

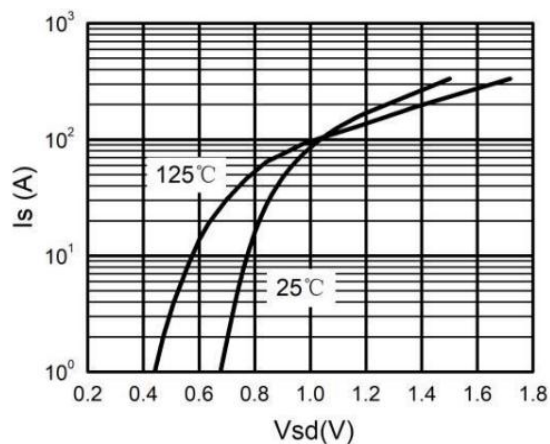


Figure 9: Maximum Forward Biased Safe Operating Area

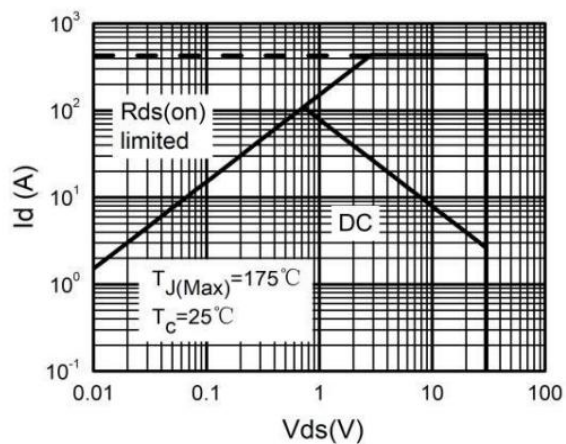
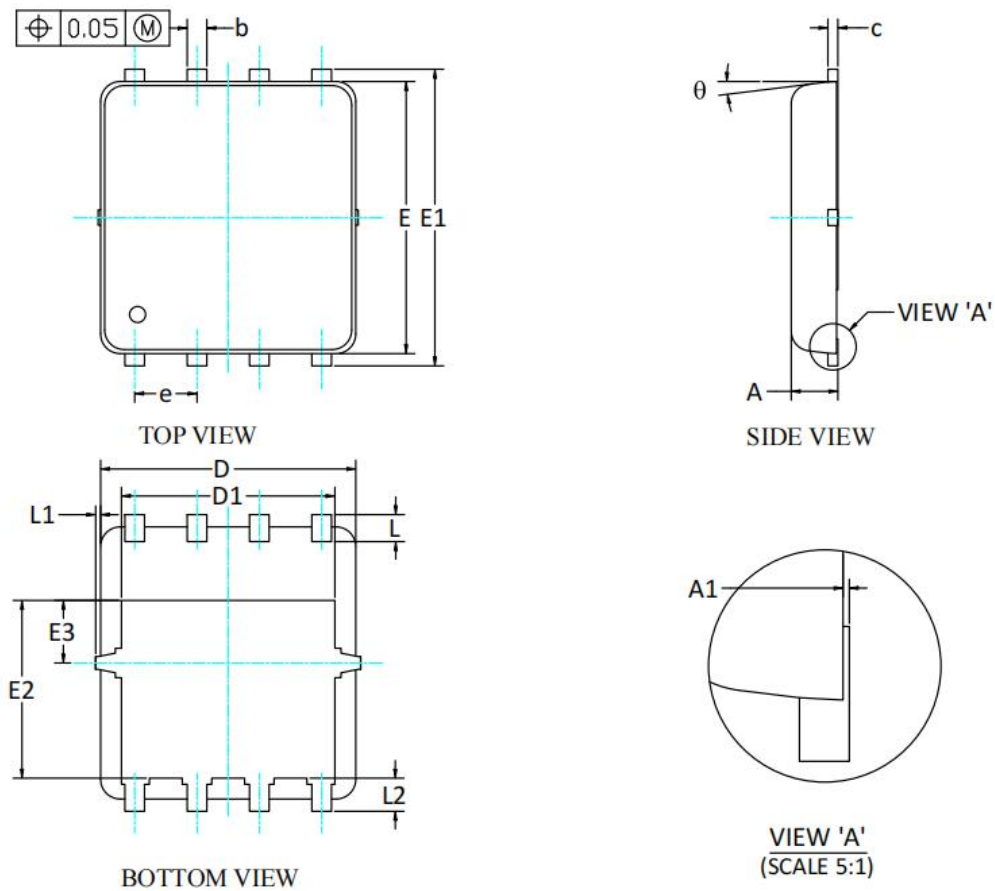


Figure 10: Maximum Safe Operating Area

DFN5x6 Package



SYMBOLS	DIMENSION IN MM			DIMENSION IN INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.850	0.950	1.000	0.0335	0.0374	0.0394
A1	0.000	---	0.050	0.0000	----	0.0020
b	0.300	0.400	0.500	0.0118	0.0157	0.0197
c	0.150	0.200	0.250	0.0059	0.0079	0.0098
D	5.100	5.200	5.300	0.2008	0.2047	0.2087
D1	4.250	4.350	4.450	0.1673	0.1713	0.1752
E	5.450	5.550	5.650	0.2146	0.2185	0.2224
E1	5.950	6.050	6.150	0.2343	0.2382	0.2421
E2	3.525	3.625	3.725	0.1388	0.1427	0.1467
E3	1.175	1.275	1.375	0.0463	0.0502	0.0541
e	1.270BSC			0.0500BSC		
L	0.450	0.550	0.650	0.0177	0.0217	0.0256
L1	0.000	---	0.150	0.0000	---	0.0059
L2	0.680REF			0.0268REF		
θ	0°	---	10°	0°	---	10°

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