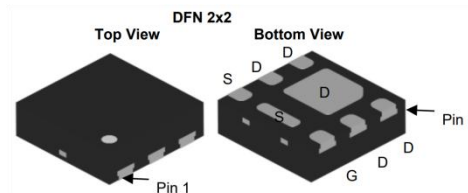




Product Summary

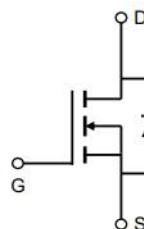
$V_{(BR)DSS}$	$R_{DS(ON)} \text{ max}$	$I_D \text{ max}$
30V	$< 4.7\text{m}\Omega @ V_{GS}=10\text{V}$	30A
	$< 6.0\text{m}\Omega @ V_{GS}=4.5\text{V}$	

Package & Internal Circuit



Description and Applications

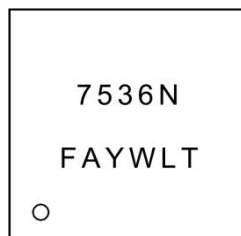
- SGT Technology
- Supper high density cell design
- Low ON resistance
- DC/DC converters
- Power supply converters circuit
- Power Switching for portable device



Ordering Information

Part Number	Package Type	Package Qty
CFN7536N	DFN2x2-6L	3,000/Tape & Reel

Marking Information



Green product

7536N--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}	± 16	V
Drain Current - Continuous	I_D	30	A
Avalanche Current	I_{AS}	23.4	A
Single Pulse Avalanche Energy $L=0.2\text{mH}$	E_{AS}	54	mJ
Power Dissipation $T_c=25^{\circ}\text{C}$	P_D	3.8	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-Ambient	$R_{\theta JA}$	-	-	$^{\circ}\text{C/W}$
Maximum Junction-to-Case	$R_{\theta JC}$	-	33	$^{\circ}\text{C/W}$

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

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Static Characteristics						
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} = ±16V			±100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	1.2	1.6	2.2	V
R _{DS(ON)}	Drain-Source on-Resistance	V _{GS} =10V, I _D =10A	3.4	4.0	4.7	mΩ
		V _{GS} =4.5V, I _D =10A	4.3	5.1	6.0	mΩ
g _{FS}	Forward Transconductance	V _{DS} = 5V, I _D =30A		50		S
R _g	Gate resistance	f=1.0MHz		2.9		Ω
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{GS} =0V V _{DS} =20V f=1.0MHz		1381		pF
C _{oss}	Output Capacitance			181		pF
C _{rss}	Reverse Transfer Capacitance			139		pF
Q _g	Total Gate Charge	V _{GS} =10V V _{DS} =15V I _D =20A		33		nC
Q _{gs}	Gate Source Charge			3.5		nC
Q _{gd}	Gate Drain Charge			8.1		nC
t _{D(on)}	Turn-On Delay Time	V _{GS} =10V V _{DS} =15V R _L =1.47Ω R _G =6Ω ID=10A		9.6		ns
t _r	Turn-On Rise Time			21		ns
t _{D(off)}	Turn-Off Delay Time			31		ns
t _f	Turn-Off Fall Time			21		ns
Drain-Source Body Diode Characteristics						
V _{SD}	Body Diode Forward Voltage	I _S = 1A,V _{GS} = 0V		0.74	1.0	V
t _{rr}	Body Diode Reverse Recovery Time	I _F =10A di/dt =100 A/μs		26		ns
Q _{rr}	Body Diode Reverse Recovery Charge			13.4		nC

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

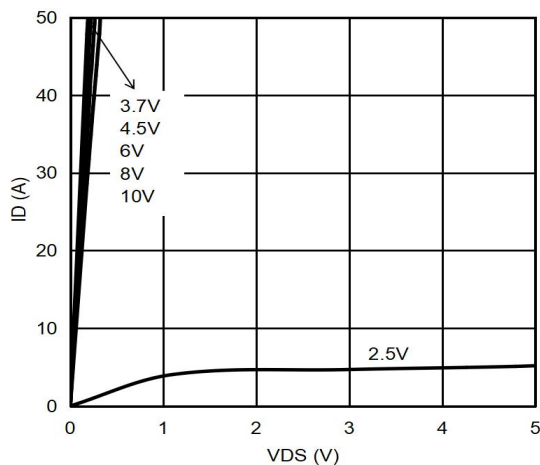


Figure 1: On-Region Characteristics

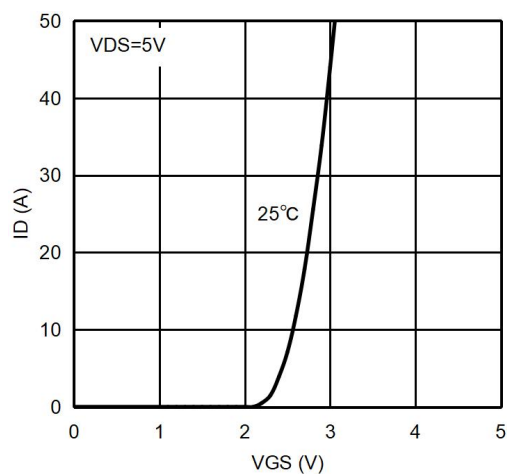


Figure 2: Transfer Characteristics

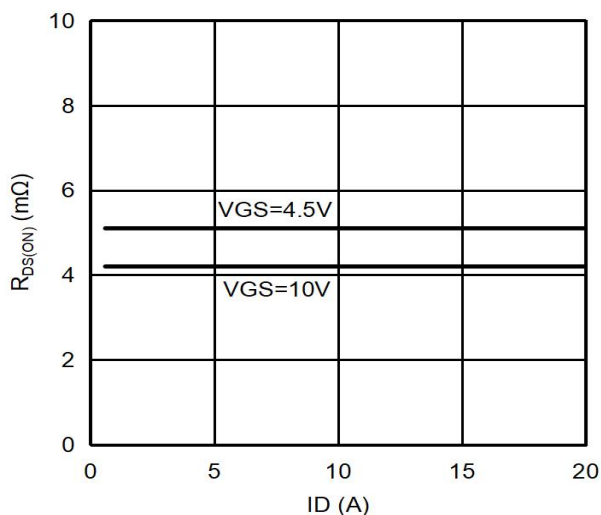


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

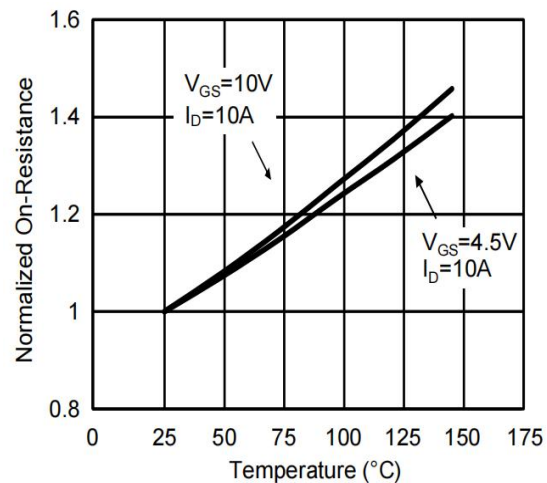


Figure 4: On-Resistance vs. Junction Temperature

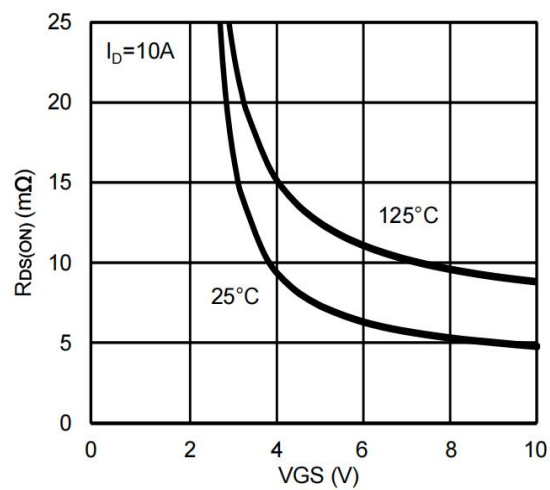


Figure 5: On-Resistance vs. Gate-Source Voltage

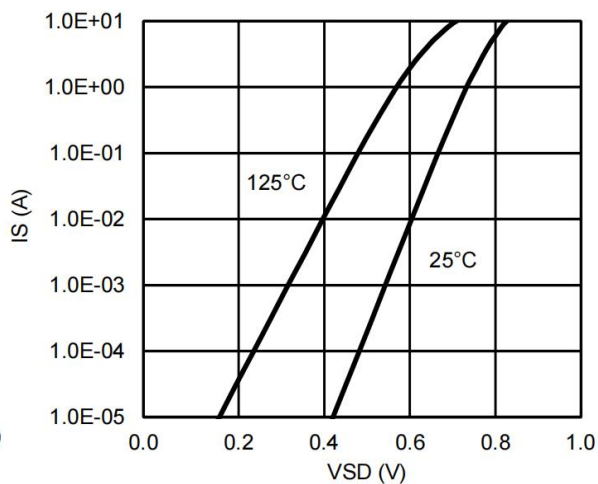


Figure 6: Body-Diode Characteristics

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

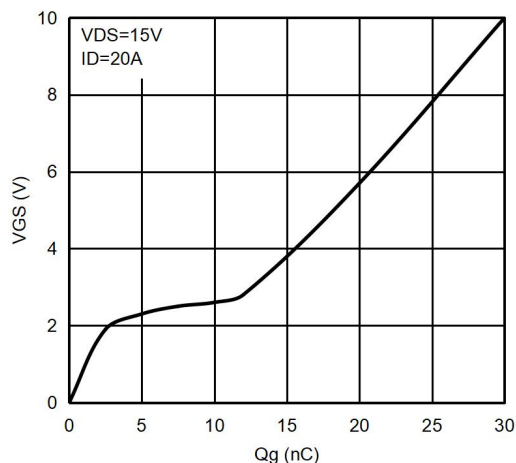


Figure 7: Gate-Charge Characteristics

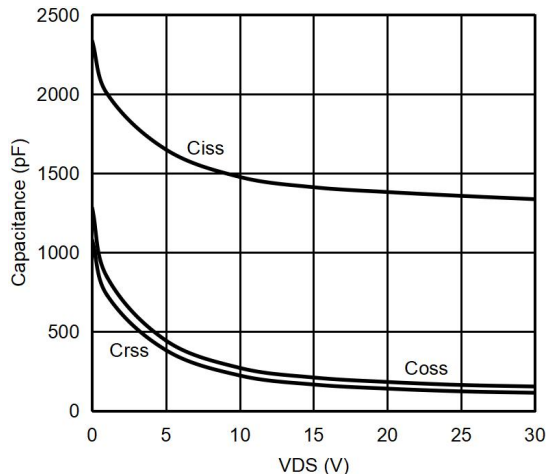


Figure 8: Capacitance Characteristics

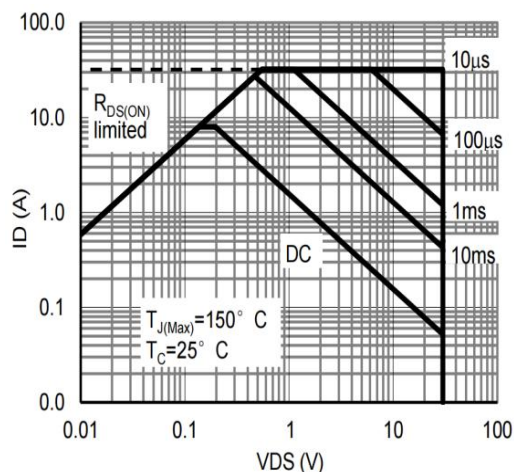


Figure 9: Maximum Forward Biased Safe Operating Area

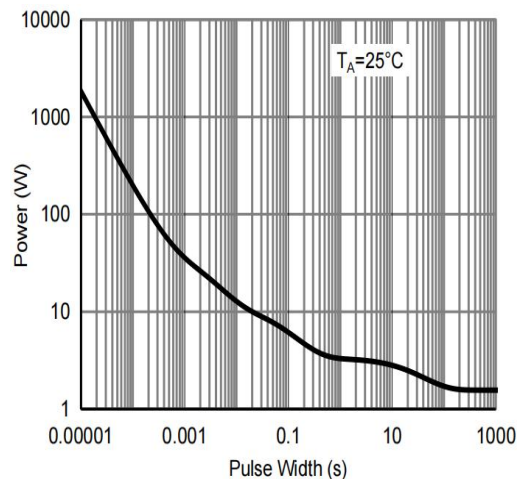


Figure 10: Single Pulse Power Rating Junction-to Case

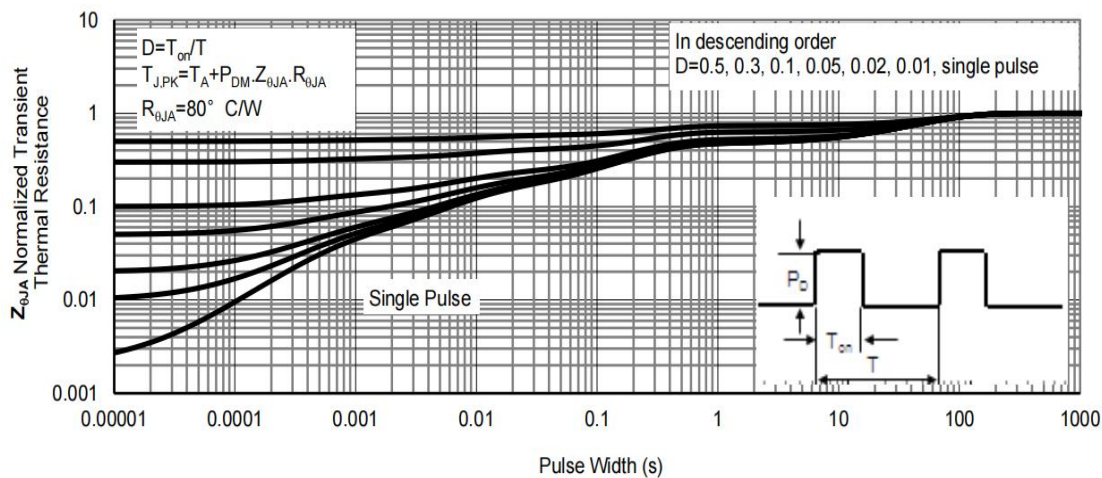
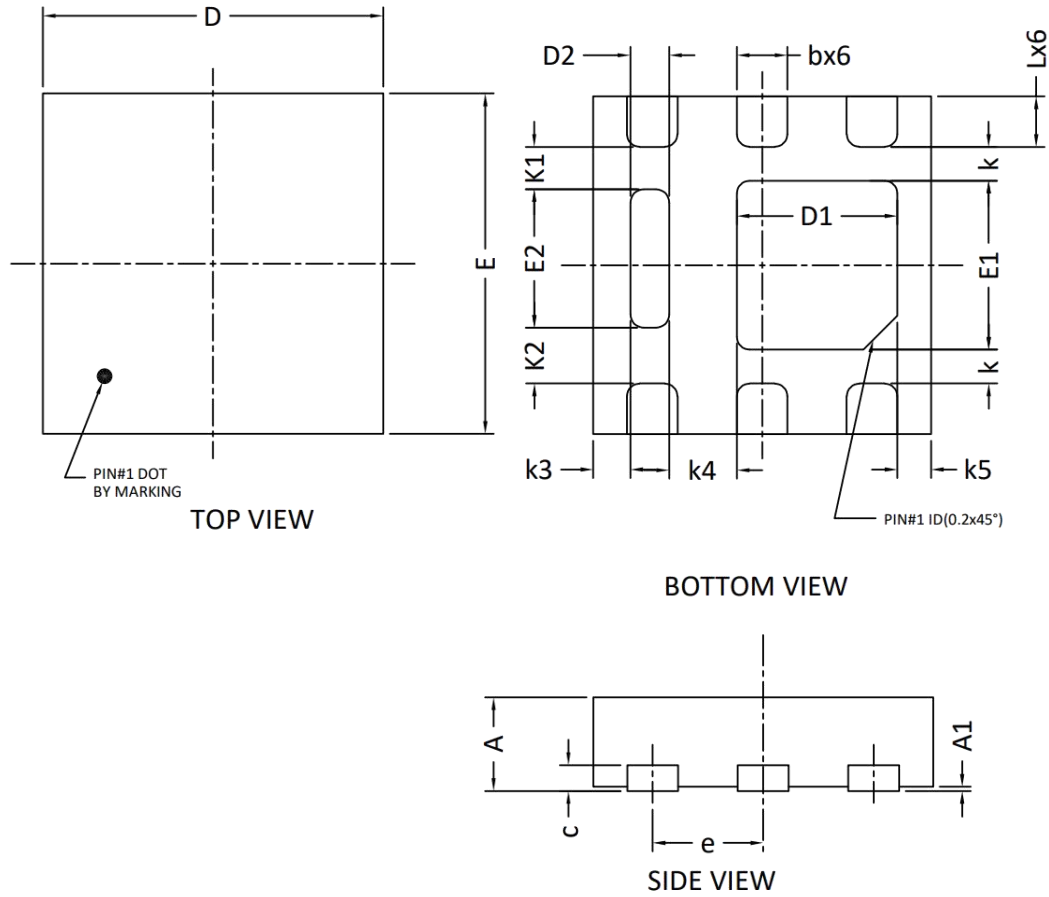


Figure 11: Normalized Maximum Transient Thermal Impedance

DFN2x2-6L Package



SYMBOLS	DIM. IN MM			DIM. IN INCH		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.500	0.550	0.600	0.020	0.022	0.024
A1	0.000	---	0.050	0.000	---	0.002
b	0.250	0.300	0.350	0.010	0.012	0.014
c	0.152REF			0.006REF		
D	1.900	2.000	2.100	0.075	0.079	0.083
D1	0.850	0.950	1.050	0.033	0.037	0.041
D2	0.130	0.230	0.330	0.005	0.009	0.013
E	1.900	2.000	2.100	0.075	0.079	0.083
E1	0.900	1.000	1.100	0.035	0.039	0.043
E2	0.720	0.820	0.920	0.028	0.032	0.036
e	0.65BSC			0.026BSC		
K	0.100	0.200	0.300	0.004	0.008	0.012
K1	0.150	0.250	0.350	0.006	0.010	0.014
K2	0.230	0.330	0.430	0.009	0.013	0.017
K3	0.120	0.220	0.320	0.005	0.009	0.013
K4	0.300	0.400	0.500	0.012	0.016	0.020
K5	0.100	0.200	0.300	0.004	0.008	0.012
L	0.250	0.300	0.350	0.010	0.012	0.014

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