Dual N-Channel 30V(D-S) MOSFET

Product summary		
V_{DS}	30	V
$R_{DS(ON)}$(at V_{GS}=10V) Typ.	11	mΩ
$R_{DS(ON)}$(at V_{GS}=4.5V) Typ.	14	mΩ
I_D(Tc=25℃)	30	A

Features

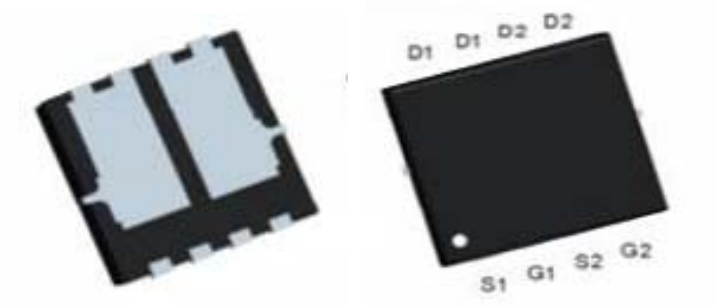
- High density cell design for low Rds(on)
- Trench Power LV MOSFET technology
- RoHS and Halogen-Free compliant

Applications

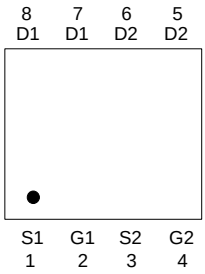
- Load switching
- High current load applications
- Uninterruptible power supply

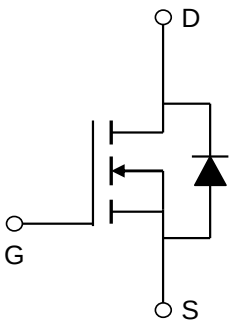
Pin Configuration

DFN3.3x3.3-8L



Top View





Packing Information

Device	Marking	Reel Size	Tape Width	Quantity
ECQ3622	Q3622	13'	12mm	5000pcs

Absolute Maximum Ratings (at TA=25℃ Unless Otherwise Noted)

Symbol	Parameter		Rating	Units
V_{DS}	Drain-Source Voltage		30	V
V_{GS}	Gate-Source Voltage		±20	V
I_D	Continuous Drain Current at V_{GS}=10V	T_C=25℃	30	A
		T_C=100℃	21	A
I_{DM}	Pulse Drain Current Tested		115	A
P_D	Power Dissipation	T_C=25℃	21	W
T_J,T_{STG}	Junciton and Storage Temperature Range		-55 to 150	℃

Thermal Characteristics

Symbol	Parameter	Typical	Units
$R_{\theta JA}$	Thermal Resistance-Junction to ambient	30	℃/W

Electrical Characteristics (at TJ =25℃ Unless Otherwise Noted)

Symbol	Parameter	Condition	Min.	Typ.	Max.	Units
Static Parameters						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V,I_D=250uA	30	--	--	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=30V,V_{GS}=0V	--	--	1	uA
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=250uA	1.0	1.6	2.5	V
$R_{DS(ON)}$	Drain-Source On-State Resistance	V_{GS}=10V,I_D=20A	--	11	13	mΩ
		V_{GS}=4.5V,I_D=10A	--	14	18	mΩ
V_{SD}	Forward Voltage	I_{SD}=15A,V_{GS}=0V	--	0.9	1.2	V
Dynamic Parameters						
C_{iss}	Input Capacitance	V_{GS}=0V,V_{DS}=15V f=1MHZ	--	972	--	pF
C_{oss}	Output Capacitance		--	201	--	pF
C_{rss}	Reverse Transfer Capacitance		--	131	--	pF
Q_g	Total Gate Charge	V_{DS}=15V,I_D=30A V_{GS}=10V	--	27	--	nC
Q_{gs}	Gate-Source Charge		--	8	--	nC
Q_{gd}	Gate-Drain Charge		--	7	--	nC
Switching Parameters						
$t_{D(on)}$	Turn-on Delay Time	V_{DD}=20V,I_D=2A R_G=3Ω,V_{GS}=10V	--	7	--	nS
t_r	Turn-on Rise Time		--	15	--	nS
$t_{D(off)}$	Turn-off Delay Time		--	28	--	nS
t_f	Turn-off Fall Time		--	9	--	nS
t_{rr}	Reverse Recovery Time	I_F=15A di/dt=100A/us	--	24	--	nS
Q_{rr}	Reverse Recovery Charge		--	28	--	nC

Typical Characteristics

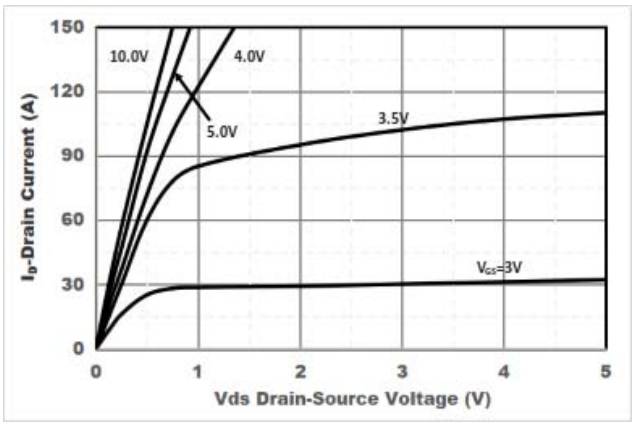


Figure1. Output Characteristics

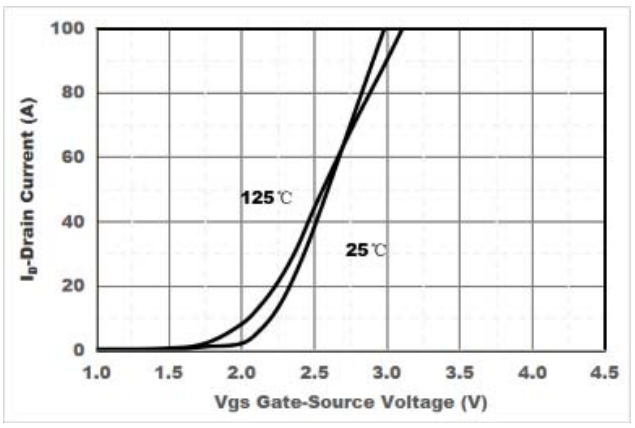


Figure2. Transfer Characteristics

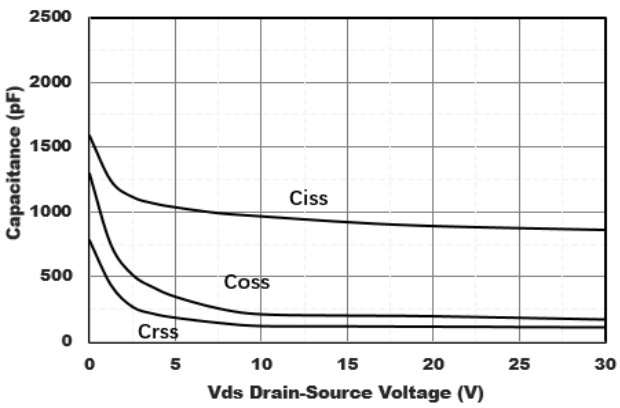


Figure3. Capacitance Characteristics

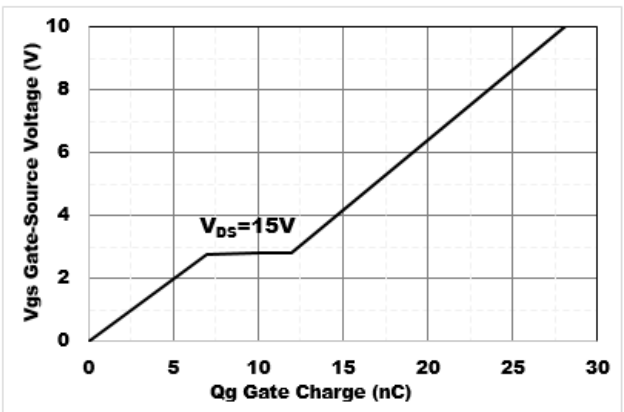


Figure4. Gate Charge

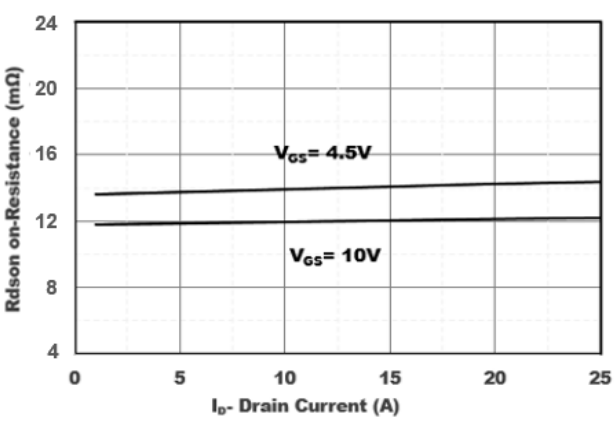


Figure5. Drain-Source on Resistance

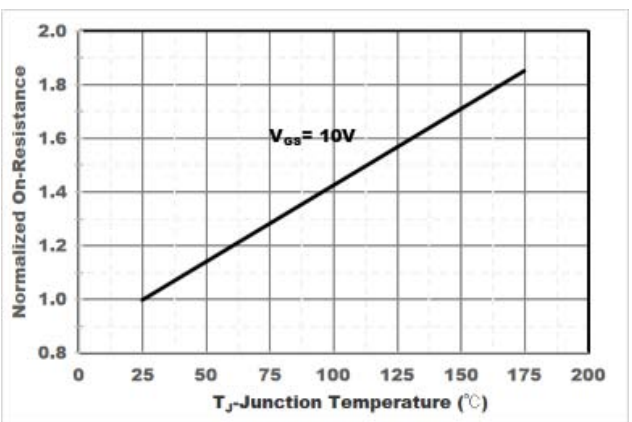


Figure6. Drain-Source on Resistance

Typical Characteristics

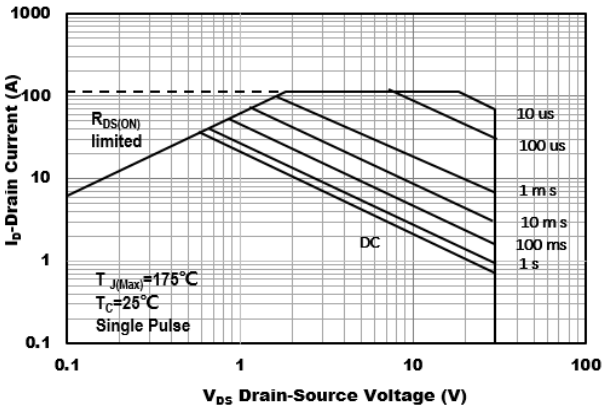


Figure7. Safe Operation Area

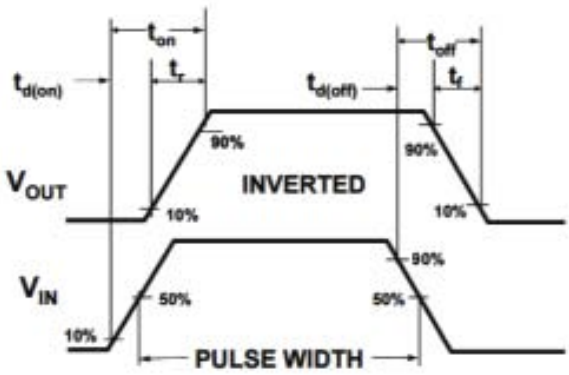
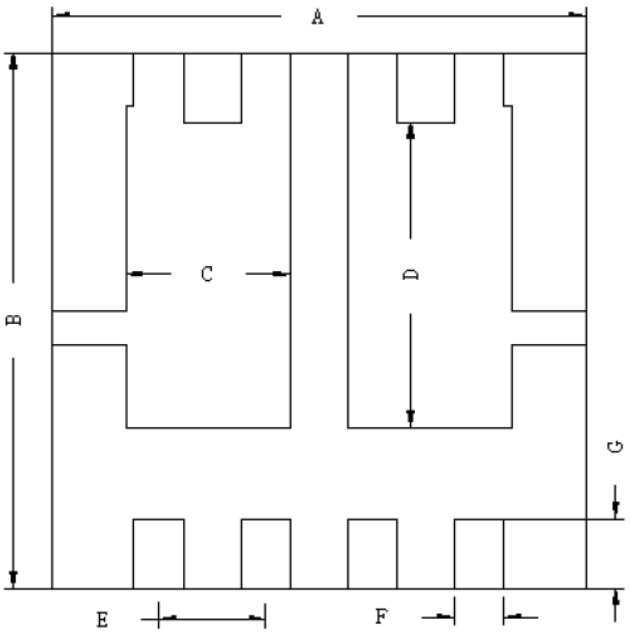
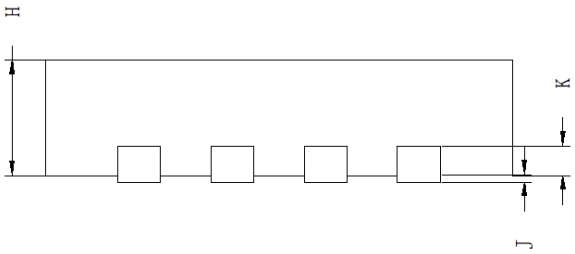


Figure8. Switching wave

DFN3.3X3.3-8L Package Information





SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	3.20	3.25	3.30
B	3.20	3.25	3.30
C	0.95	1.00	1.05
D	1.80	1.85	1.90
E		0.65 BSC	
F	0.25	0.30	0.35
G	0.375	0.425	0.475
H	0.75	0.80	0.85
J			0.05
K		0.2 REF	