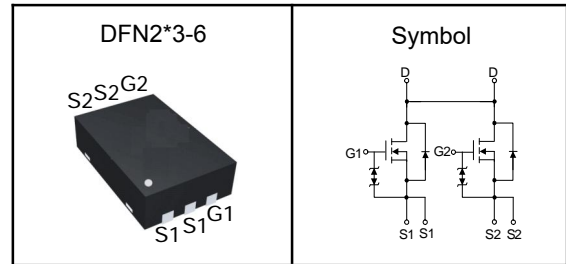


Common-Drain Dual N-Channel Enhancement Mode MOSFET
Features

- Low Rdson for low conduction loss
- ESD protection
- Reliable and Rugged
- ROHS Compliant & Halogen-Free

Applications

- Power Management in Desktop Computer
- DC/DC Converters

Pin Description


V _{DSS}	20	V
R _{DS(ON)-Typ}	6	mΩ
I _D	9.7	A

Absolute Maximum Ratings (T_A=25°C, Unless Otherwise Noted)

Symbol	Parameter	N-Channel	Unit
V _{DSS}	Drain-Source Voltage	20	V
V _{GSS}	Gate-Source Voltage	±12	V
T _J	Maximum Junction Temperature	-55 to 150	°C
T _{STG}	Storage Temperature Range	-55 to 150	°C
I _S	Diode Continuous Forward Current	2	A
I _{DM} ^①	Pulse Drain Current Tested	38	A
I _D	Continuous Drain Current	T _A =25°C 9.7	A
P _D	Maximum Power Dissipation	T _A =25°C 1	W
E _{AS} ^②	Avalanche Energy, Single pulse	24.2	mJ

Thermal Characteristics

Symbol	Parameter	Rating	Unit
R _{θJA}	Thermal Resistance-Junction to Ambient	80	°C/W

Note ① : Max. current is limited by bonding wire.

Note ② : UIS tested and pulse width are limited by maximum junction temperature 150°C.

Note ③ : Surface Mounted on 1in² FR-4 board with 1oz.



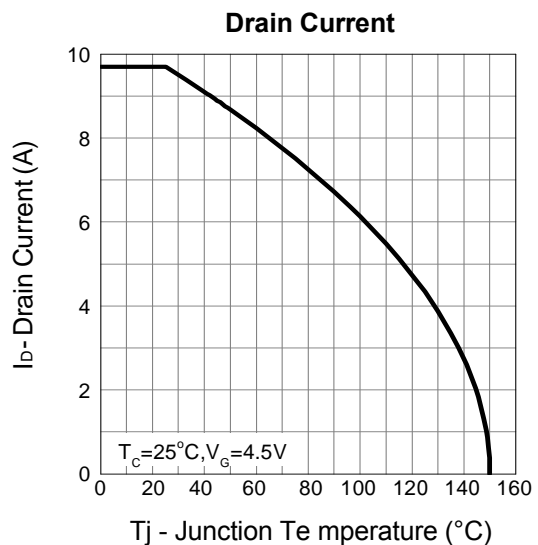
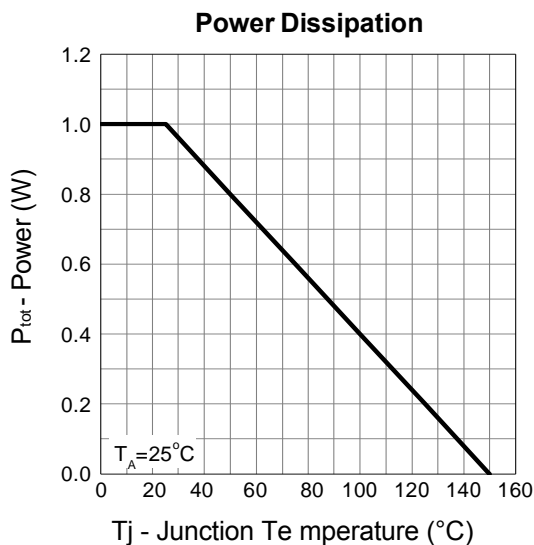
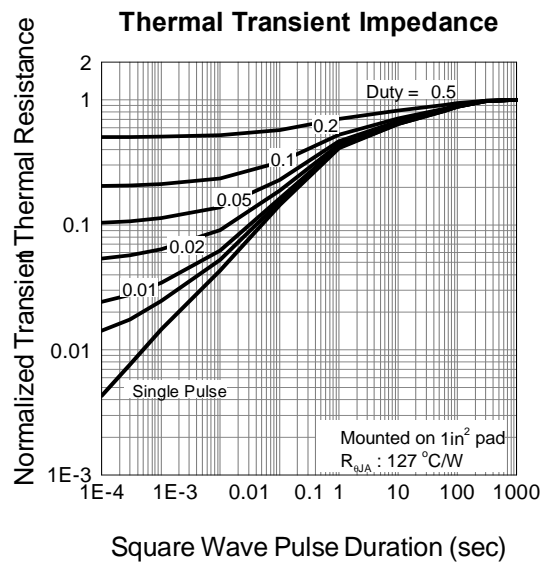
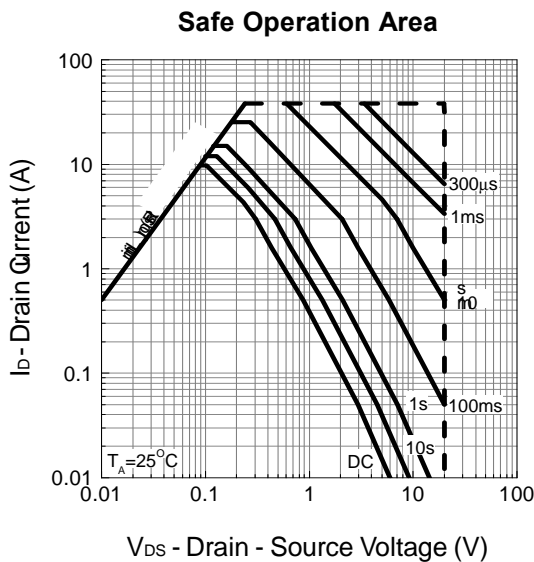
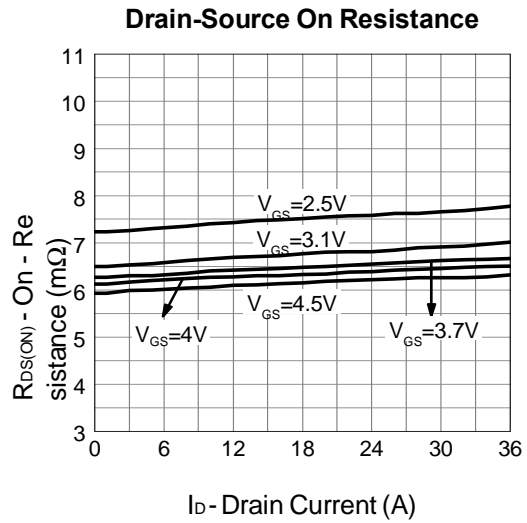
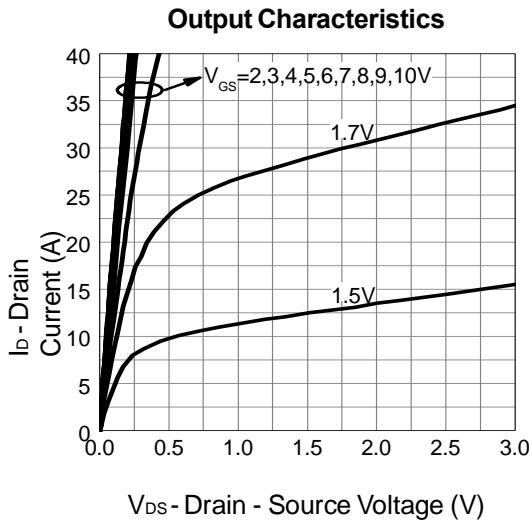
Common-Drain Dual N-Channel Enhancement Mode MOSFET

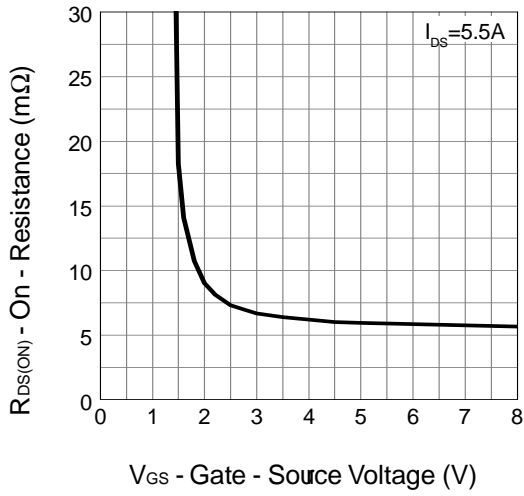
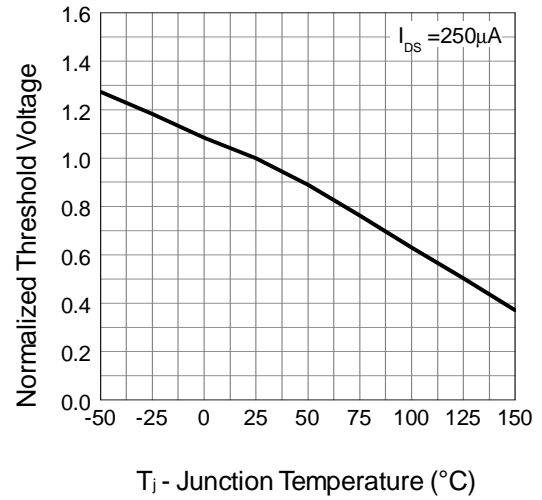
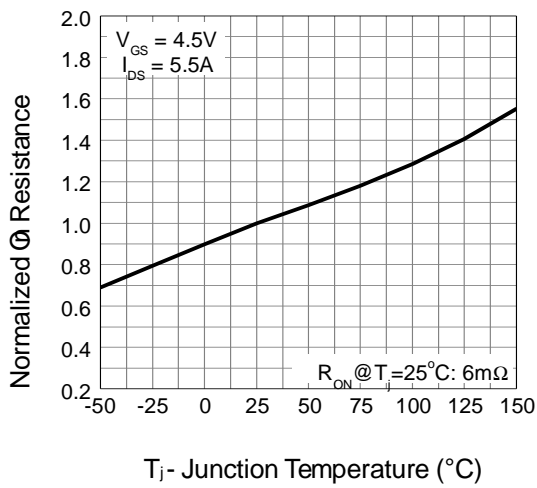
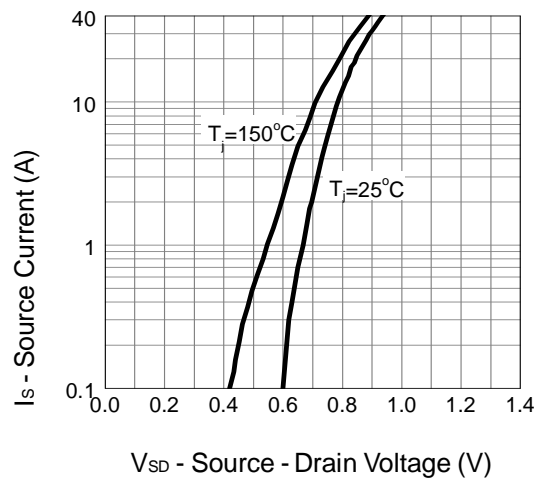
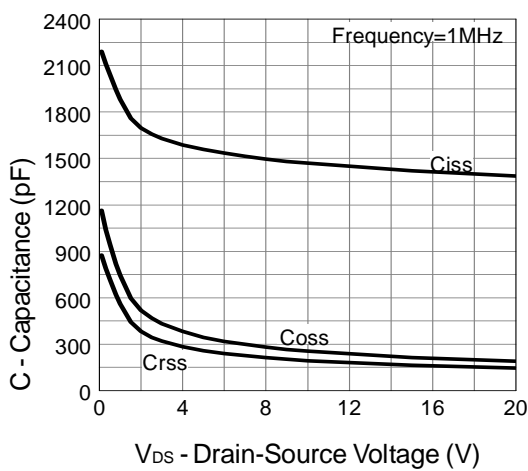
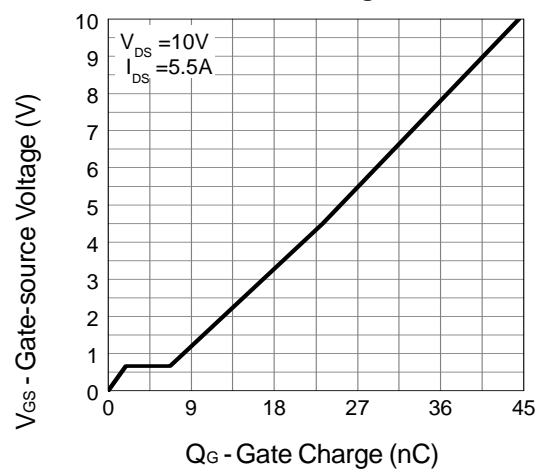
Electrical Characteristics ($T_J=25^{\circ}\text{C}$, Unless Otherwise Noted)

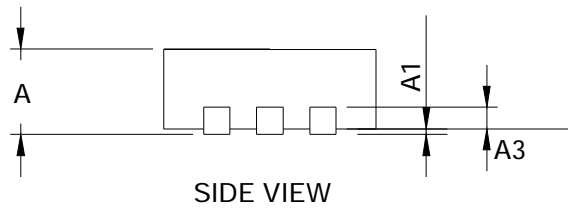
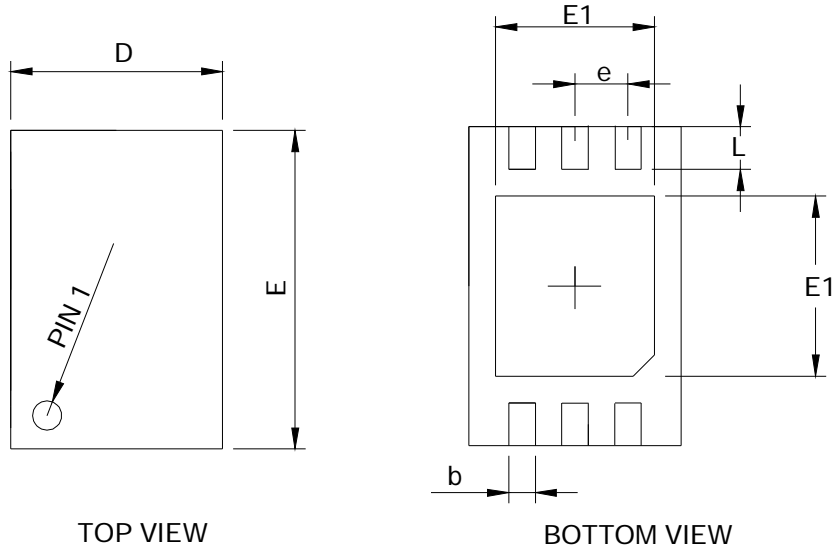
Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
Static Electrical Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	20	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=16V, V_{GS}=0V$	---	---	1	μA
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5	---	1	V
I_{GSS}	Gate Leakage Current	$V_{GS}=\pm 12V, V_{DS}=0V$	---	---	± 10	nA
$R_{DS(on)}$	Drain-Source On-state Resistance	$V_{GS}=4.5V, I_D=5.5A$	---	6	7.5	$m\Omega$
		$V_{GS}=2.5V, I_D=5.5A$	---	7.3	9.9	$m\Omega$
Dynamic Characteristics ^⑤						
C_{iss}	Input Capacitance	$V_{GS}=0V, V_{DS}=10V, \text{Freq.}=1\text{MHz}$	---	1470	---	pF
C_{oss}	Output Capacitance		---	258	---	
C_{rss}	Reverse Transfer Capacitance		---	202	---	
$T_{d(on)}$	Turn-on Delay Time	$V_{DD}=10V, R_L=10\Omega, I_{DS}=1A, V_{GEN}=10V, R_G=1\Omega$	---	8	---	nS
T_r	Turn-on Rise Time		---	20	---	
$T_{d(off)}$	Turn-off Delay Time		---	935	---	
T_f	Turn-off Fall Time		---	410	---	
R_g	Gate Resistance	$f = 1.0\text{MHz}$, open drain	---	11	---	Ω
Q_g	Total Gate Charge	$V_{DS}=10V, V_{GS}=4.5V, I_D=5.5A$	---	23.2	---	nC
Q_{gs}	Gate-Source Charge		---	1.9	---	
Q_{gd}	Gate-Drain Charge		---	4.8	---	
Source-Drain Characteristics ($T_J=25^{\circ}\text{C}$)						
V_{SD} ^④	Diode Forward Voltage	$I_S=1A, V_{GS}=0V$	---	0.7	1.3	V
t_{rr}	Reverse Recovery Time	$I_{SD}=5.5A, di/dt=100A/\mu s, T_J=25^{\circ}\text{C}$	---	445	---	nS
Q_{rr}	Reverse Recovery Charge		---	2175	---	nC

Note ④ : Pulse test (pulse width \leq 300us, duty cycle \leq 2%).

Note ⑤ : Guaranteed by design, not subject to production testing.

Common-Drain Dual N-Channel Enhancement Mode MOSFET
Typical Characteristics


Common-Drain Dual N-Channel Enhancement Mode MOSFET
Gate-Source Θ Resistance

Gate Threshold Voltage

Drain-Source On Resistance

Source-Drain Diode Forward

Capacitance

Gate Charge


Common-Drain Dual N-Channel Enhancement Mode MOSFET
DFN2*3-6 Package Outline Dimensions


SYMBOL	DFN2*3-6			
	MILLIMETERS		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	0.70	1.00	0.028	0.039
A1	0.00	0.05	0.000	0.002
A3	0.203 REF		0.008 REF	
b	0.20	0.30	0.008	0.012
D	1.90	2.10	0.075	0.083
E1	1.60	1.80	0.063	0.071
E	2.90	3.10	0.114	0.122
D1	1.40	1.60	0.055	0.063
e	0.50 BSC		0.02 BSC	
L	0.30	0.50	0.012	0.020

RECOMMENDED LAND PATTERN
