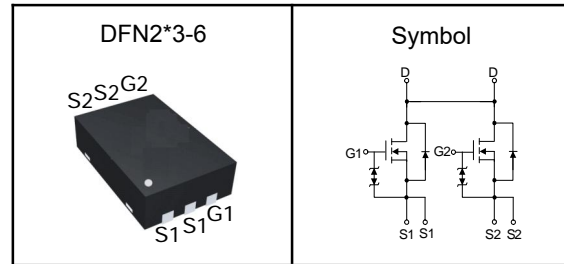


**Common-Drain Dual N-Channel Enhancement Mode MOSFET**
**Features**

- 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 <sub>DSS</sub>	20	V
R <sub>DS(ON)-Typ</sub>	10	mΩ
I <sub>D</sub>	10	A

**Absolute Maximum Ratings**(T<sub>J</sub>=25°C, Unless Otherwise Noted)

Symbol	Parameter	N-Channel	Unit
V <sub>DSS</sub>	Drain-Source Voltage	20	V
V <sub>GSS</sub>	Gate-Source Voltage	±12	V
T <sub>J</sub>	Maximum Junction Temperature	-55 to 150	°C
T <sub>STG</sub>	Storage Temperature Range	-55 to 150	°C
I <sub>DM</sub> <sup>①</sup>	Pulse Drain Current Tested	30	A
I <sub>D</sub>	Continuous Drain Current	T <sub>A</sub> =25°C	A
P <sub>D</sub>	Maximum Power Dissipation	T <sub>A</sub> =25°C	W

**Thermal Characteristics**

Symbol	Parameter	Rating	Unit
R <sub>θJA</sub>	Thermal Resistance-Junction to Ambient	100	°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 1in<sup>2</sup> FR-4 board with 1oz.



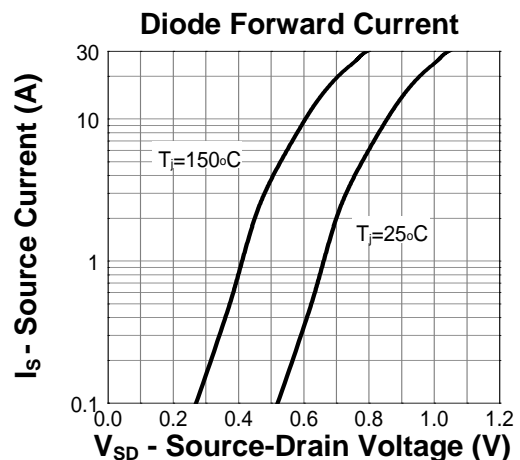
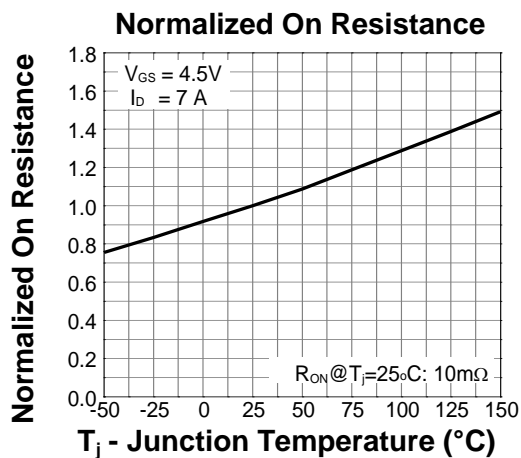
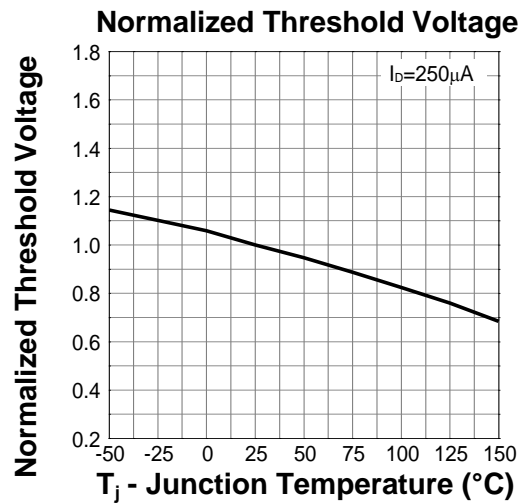
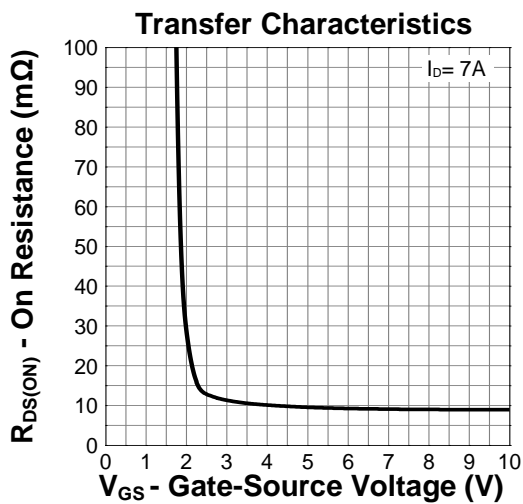
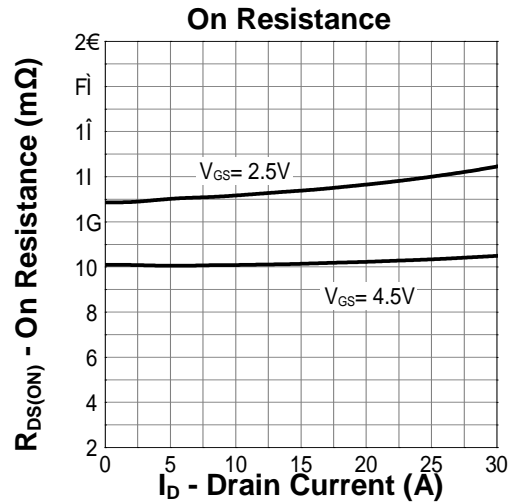
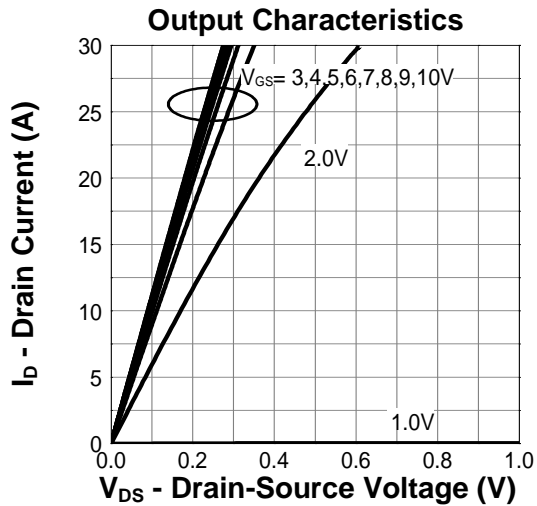
<b>Common-Drain Dual N-Channel Enhancement Mode MOSFET</b>
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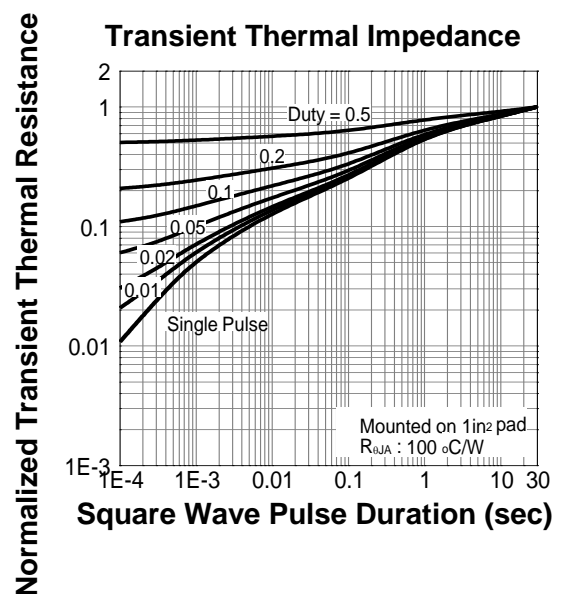
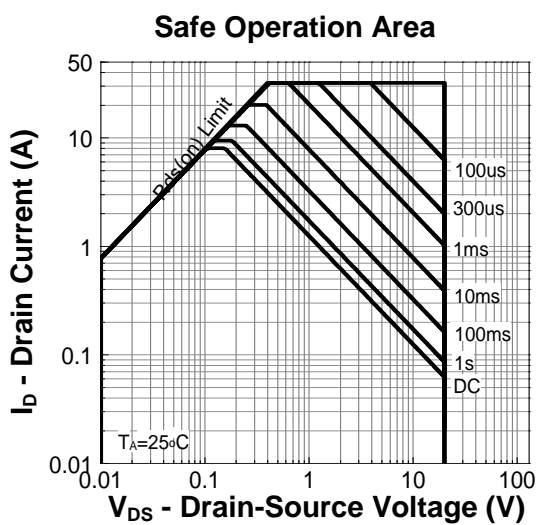
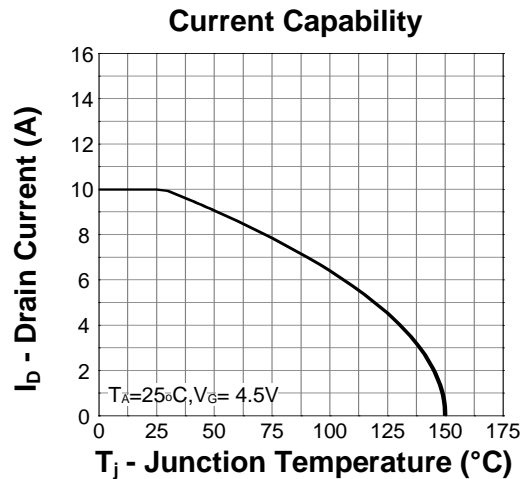
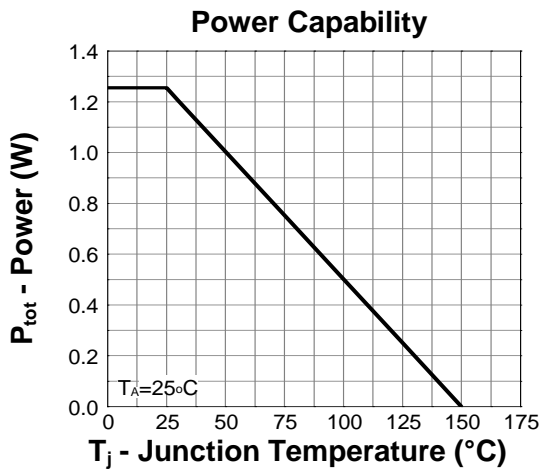
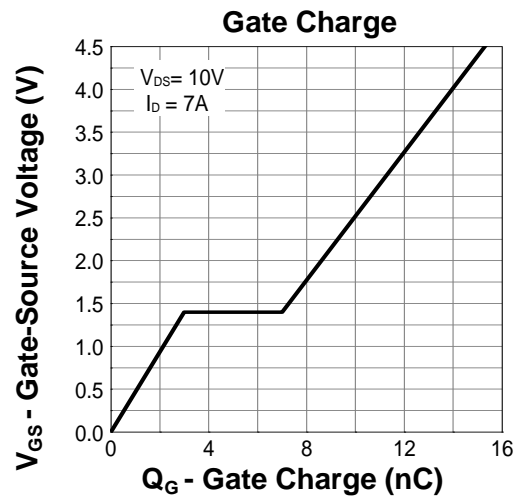
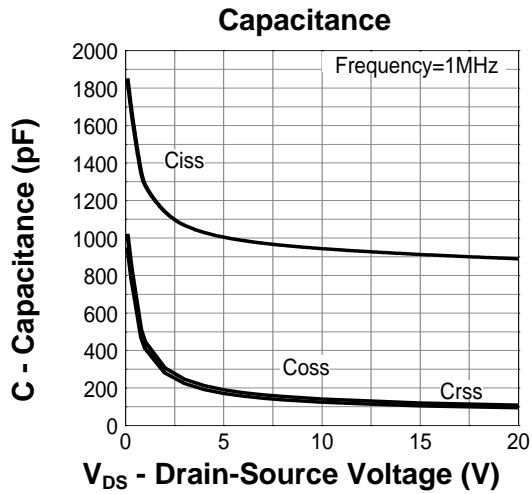
**Electrical Characteristics** ( $T_J=25^\circ\text{C}$ , Unless Otherwise Noted)

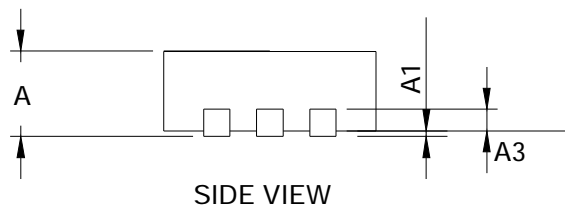
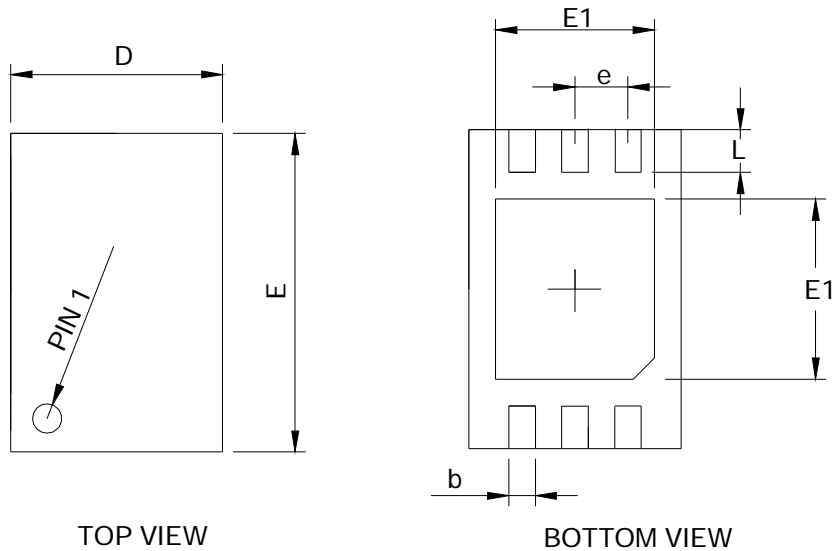
Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
<b>Static Electrical Characteristics</b>						
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	20	---	---	V
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=16V, V_{GS}=0V$	---	---	1	$\mu A$
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5	---	1	V
$I_{GSS}$	Gate Leakage Current	$V_{GS}=\pm 12V, V_{DS}=0V$	---	---	$\pm 10$	nA
$R_{DS(on)}$	Drain-Source On-state Resistance	$V_{GS}=4.5V, I_D=7A$	---	10	11	$m\Omega$
		$V_{GS}=2.5V, I_D=4A$	---	12	14	$m\Omega$
<b>Dynamic Characteristics</b> <sup>⑤</sup>						
$C_{iss}$	Input Capacitance	$V_{GS}=0V,$ $V_{DS}=10V,$ Freq.=1MHz	---	940	---	pF
$C_{oss}$	Output Capacitance		---	130	---	
$C_{rss}$	Reverse Transfer Capacitance		---	120	---	
$T_{d(on)}$	Turn-on Delay Time	$V_{DS}=10V, V_{GS}=4.5V,$ $R_G=4.5\Omega, I_D=7A$	---	0.1	---	nS
$T_r$	Turn-on Rise Time		---	0.3	---	
$T_{d(off)}$	Turn-off Delay Time		---	3.4	---	
$T_f$	Turn-off Fall Time		---	2.8	---	
$R_g$	Gate Resistance	f = 1.0MHz, open drain	---	---	---	$\Omega$
$Q_g$	Total Gate Charge	$V_{DS}=10V, V_{GS}=4.5V,$ $I_D=7A$	---	15	---	nC
$Q_{gs}$	Gate-Source Charge		---	3	---	
$Q_{gd}$	Gate-Drain Charge		---	4	---	
<b>Source-Drain Characteristics</b> ( $T_J=25^\circ\text{C}$ )						
$V_{SD}$ <sup>④</sup>	Diode Forward Voltage	$I_S=7A, V_{GS}=0V$	---	0.8	1.2	V

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**


**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**
