



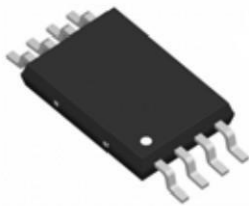
### Dual N-Channel Enhancement-Mode MOSFET(20V, 10A)

#### PRODUCT SUMMARY

V <sub>DS</sub>	I <sub>D</sub>	R <sub>DS(on)</sub> (m-ohm) TYP
20V	10A	16 @ V <sub>GS</sub> = 4.5V, I <sub>D</sub> =1A
		20 @ V <sub>GS</sub> = 2.5V, I <sub>D</sub> =1A

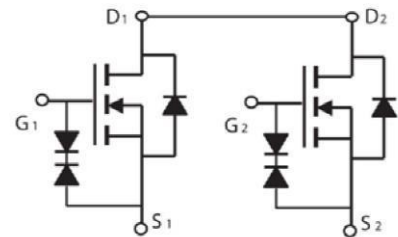
#### ◆ Features

1. High density cell design for ultra low On-Resistance.
2. Advanced trench process technology.
3. RoHS Compliant.



TSSOP-8

Pin 1/8: Drain1/ Drain2  
 Pin 2/3: Source1  
 Pin 4: Gate1  
 Pin 5: Gate2  
 Pin 6 / 7 : Source2



#### ◆ Absolute Maximum Ratings (T<sub>A</sub>=25°C, unless otherwise noted)

Symbol	Parameter	Ratings	Units
V <sub>DS</sub>	Drain-Source Voltage	20	V
V <sub>GS</sub>	Gate-Source Voltage	±10	V
I <sub>D</sub>	Drain Current (Continuous) <sup>a</sup>	10	A
I <sub>DM</sub>	Drain Current (Pulsed) <sup>b</sup>	32	A
P <sub>D</sub>	Total Power Dissipation @T <sub>A</sub> =25°C	2	W
T <sub>j</sub> , T <sub>stg</sub>	Operating Junction and Storage Temperature Range	-55 to +150	°C
R <sub>θJA</sub>	Thermal Resistance Junction to Ambient (PCB mounted) <sup>c</sup>	100	°C/W



a:Fused current that based on wire numbers and diameter

b:Repetitive Rating: Pulse width limited by the maximum junction temperature

c:1-in<sup>2</sup> 2oz Cu PCB board

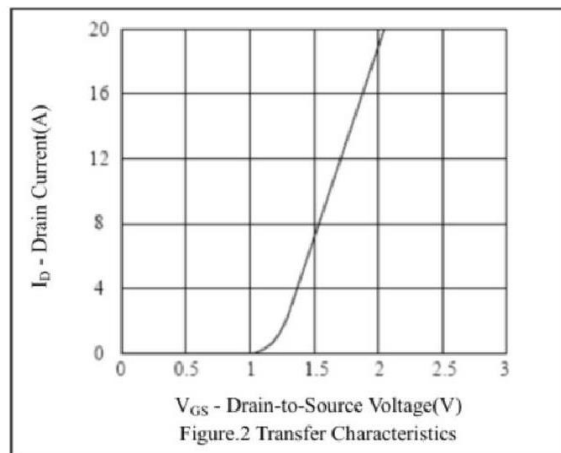
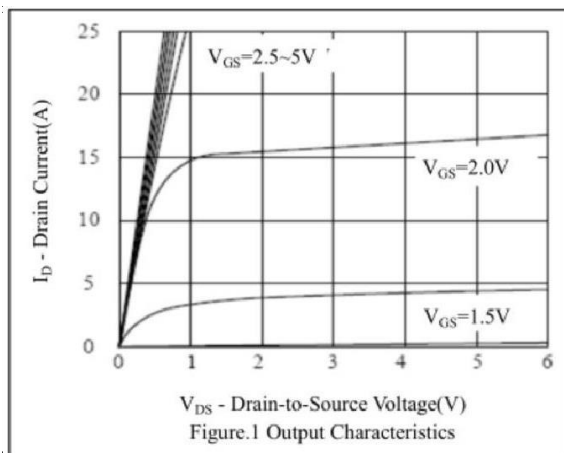
◆ **Electrical Characteristics** (T<sub>A</sub>=25°C, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
<b>• Off Characteristics</b>						
B <sub>V</sub> DSS	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V, I <sub>D</sub> =250uA	20	-	-	V
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =15V, V <sub>GS</sub> =0V	-	-	1	uA
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> =±10V, V <sub>DS</sub> =0V	-	-	±100	nA
<b>• On Characteristics</b>						
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250uA	0.5	-	1.1	V
R <sub>DS(on)</sub>	Drain-Source On-State Resistance	V <sub>GS</sub> =4.5V, I <sub>D</sub> =4.5A	15.1	16	17	mΩ
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =3.5A		18		
<b>• Dynamic Characteristics<sup>d</sup></b>						
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f=1MHz	-	950	-	pF
C <sub>oss</sub>	Output Capacitance		-	450	-	
C <sub>rss</sub>	Reverse Transfer Capacitance		-	135	-	
<b>• Switching Characteristics<sup>d</sup></b>						
Q <sub>g</sub>	Total Gate Charge	V <sub>DS</sub> =10V, I <sub>D</sub> =3A, V <sub>GS</sub> =4.5V	-	9.2	-	nC
Q <sub>gs</sub>	Gate-Source Charge		-	2.7	-	
Q <sub>gd</sub>	Gate-Drain Charge		-	3.7	-	
t <sub>d(on)</sub>	Turn-on Delay Time	V <sub>DD</sub> =10V, I <sub>D</sub> =1A, V <sub>GEN</sub> =4.5V, R <sub>G</sub> =6Ω	-	10	-	nS
t <sub>r</sub>	Turn-on Rise Time		-	14	-	
t <sub>d(off)</sub>	Turn-off Delay Time		-	39	-	
t <sub>f</sub>	Turn-off Fall Time		-	26	-	
<b>• Drain-Source Diode Characteristics</b>						
I <sub>S</sub>	Maximum Diode Forward Current		-	-	1.7	A
V <sub>SD</sub>	Drain-Source Diode Forward Voltage	V <sub>GS</sub> =0V, I <sub>S</sub> =1.7A	-	-	1.2	V

Note: Pulse Test: Pulse Width ≤300us, Duty Cycle≤2%

d: Guaranteed by design: not subject to production testing

◆ **Characteristics Curve**





### ◆ Characteristics Curve

