Common-Drain Dual N-Channel 12 V MOSFET

PRODUCT SUMMARY	
V_{SS} (V)	$R_{DS(on)}$ (mΩ)(Typ.)
12	2 at V_{GS} = 4.5 V
	3.1 at V_{GS} = 2.5 V

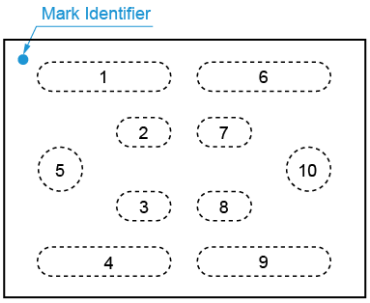
FEATURES

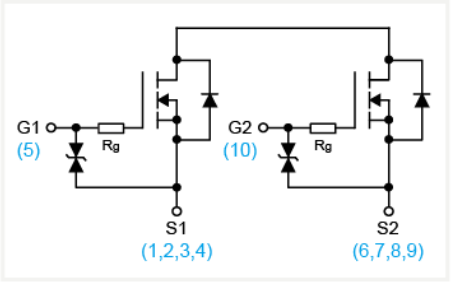
- Advanced Trench Technology
- V_{SSS}=12V
  $R_{SS(ON)}$=2.6mΩ(max.) @ V_{GS}=4.5V, I_S=7.3A
  $R_{SS(ON)}$=2.9mΩ(max.) @ V_{GS}=3.8V, I_S=7.3A
  $R_{SS(ON)}$=3.1mΩ(max.) @ V_{GS}=3.1V, I_S=7.3A
  $R_{SS(ON)}$=4.0mΩ(max.) @ V_{GS}=2.5V, I_S=7.3A
- High Dense Design
- Typical ESD Protection HBM Class 2
- Excellent Gate Charge x $R_{DS(ON)}$ Product(FOM)
- Ultra Low On-Resistance
- Reliable and Rugged
- RoHS Compliant

APPLICATIONS

- Lithium-ion Secondary Battery Protection Circuits

CSP Pin Configuration





ORDERING INFORMATION			
Temperature Range	**Package**		**Package Qty.**
-55°C ~ +150°C	CSP	Pb -Free	3000 Units/ Reel

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C, unless otherwise noted)			
PARAMETER	**SYMBOL**	**LIMIT**	**UNIT**
Source-Source Voltage	V_{SS}	12	V
Gate-Source Voltage	V_{GS}	± 8	
Storage Temperature Range	T_{STG}	- 55 to 150	°C
Operating Junction Temperature Range	T_J	- 55 to 150	°C

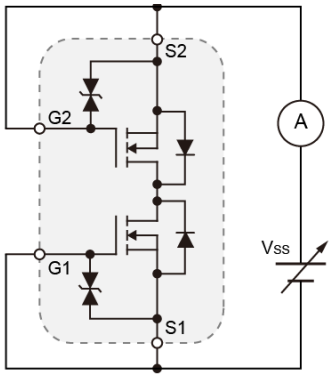
SPECIFICATIONS (T_A = 25 °C, unless otherwise noted)						
PARAMETER	**SYMBOL**	**TEST CONDITIONS**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Static						
Source-Source Breakdown Voltage	BV_{SSS}	V_{GS} = 0 V, I_S = 250 µA	12	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{SS} = V_{GS}, I_S = 250 µA	0.35	-	1.4	
Gate-Body Leakage	I_{GSS}	V_{SS} = 0 V, V_{GS} = ± 8 V	-	-	± 10	µA
Zero Gate Voltage Source Current	I_{SSS}	V_{SS} = 12 V, V_{GS} = 0 V	-	-	1	µA
Source-Source On-State Resistance[a]	$R_{SS(on)}$	V_{GS} = 4.5 V, I_S = 7.3 A	-	2	2.6	mΩ
		V_{GS} = 3.8 V, I_S = 7.3 A	-	2.2	2.9	
		V_{GS} = 3.1 V, I_S = 7.3 A	-	2.4	3.1	
		V_{GS} = 2.5 V, I_S = 7.3 A	-	3.1	4	

Notes

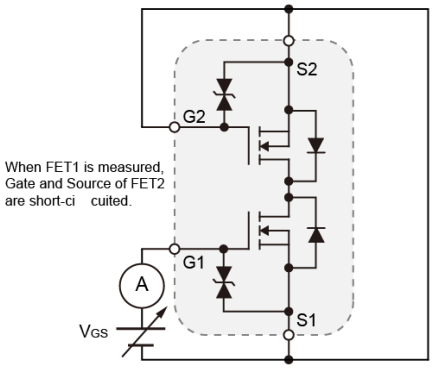
a. Pulse test; pulse width ≤ 300 µs, duty cycle ≤ 2 %.

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those in dicated in the operational sectio ns of the specifications is not implied. Exposure to absolute maximum rating conditions for extended pe riods may affect device reliability.

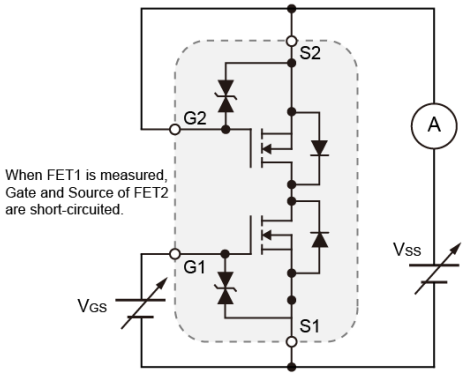
Test Circuit



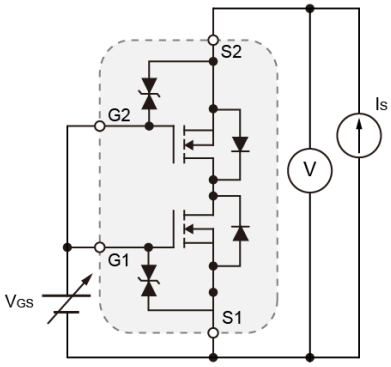
Test circuit 1. BV_{SSS}, I_{SSS}



Test circuit 2. I_{GSS}



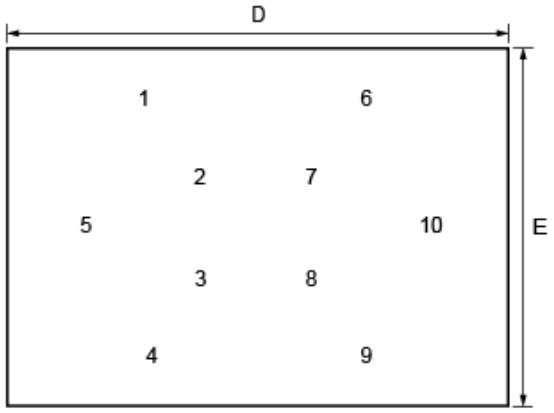
Test circuit 3. $V_{GS(th)}$



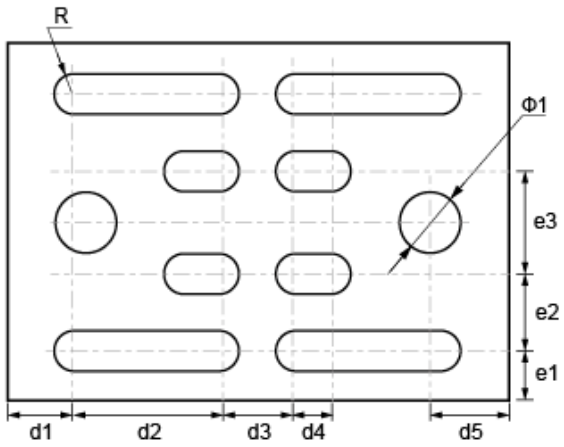
Test circuit 4. $R_{SS(ON)}$

CSP2.08*1.45-10L PACKAGE OUTLINE

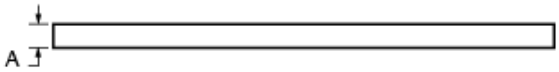
Top view



Bottom View



Front View



Symbol	Dimension (mm)			Symbol	Dimension (mm)		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	0.065	0.095	0.125	E	1.40	1.45	1.50
D	2.03	2.08	2.13	e1	0.2025 BSC		
d1	0.2825 BSC			e2	0.315 BSC		
d2	0.600 BSC			e3	0.415 BSC		
d3	0.315 BSC			R	0.0825 BSC		
d4	0.145 BSC			Φ1	0.250 BSC		
d5	0.325 BSC			-	-		

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