Common-Drain Dual N-Channel 12 V MOSFET

PRODUCT SUMMARY	
V_{SS} (V)	$R_{DS(on)}$ (mΩ)(Typ.)
12	0.9 at V_{GS} = 4.5 V
	1.4 at V_{GS} = 2.5 V

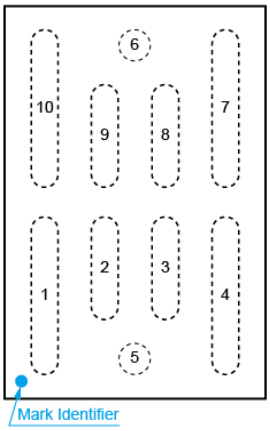
FEATURES

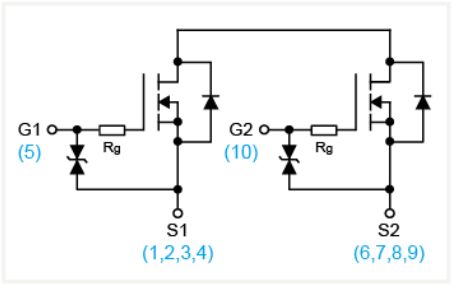
- Advanced Trench Technology
- V_{SSS}=12V
  $R_{SS(ON)}$=1.2mΩ(max.) @ V_{GS}=4.5V, I_S=10A
  $R_{SS(ON)}$=1.3mΩ(max.) @ V_{GS}=3.8V, I_S=10A
  $R_{SS(ON)}$=1.5mΩ(max.) @ V_{GS}=3.1V, I_S=10A
  $R_{SS(ON)}$=1.9mΩ(max.) @ V_{GS}=2.5V, I_S=10A
- High Dense Design
- Typical ESD Protection HBM Class 2
- 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

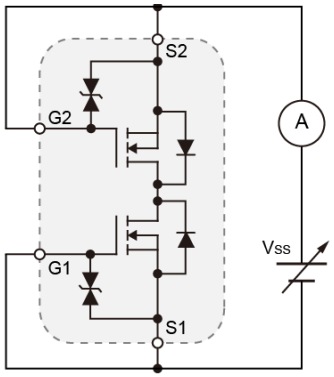
SPECIFICATIONS (T_A = 25 °C, unless otherwise noted)						
PARAMETER	**SYMBOL**	**TEST CONDITIONS**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Static						
Source-Source Breakdown Voltage	BV_{SSS}	V_{GS} = 0 V, I_S = 250 µA	12	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{SS} = V_{GS}, I_S = 250 µA	0.35	-	1.4	
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 = 10 A	-	0.9	1.2	mΩ
		V_{GS} = 3.8 V, I_S = 10 A	-	1	1.3	
		V_{GS} = 3.1 V, I_S = 10 A	-	1.1	1.5	
		V_{GS} = 2.5 V, I_S = 10 A	-	1.4	1.9	

Notes

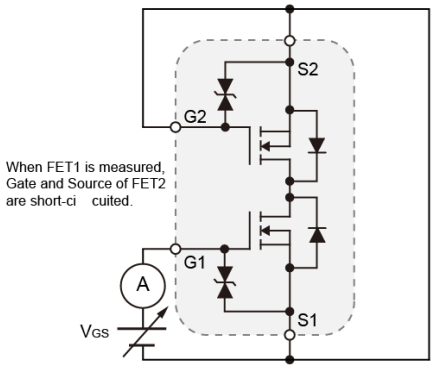
a. Pulse test; pulse width ≤ 300 µs, duty cycle ≤ 2 %.

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.

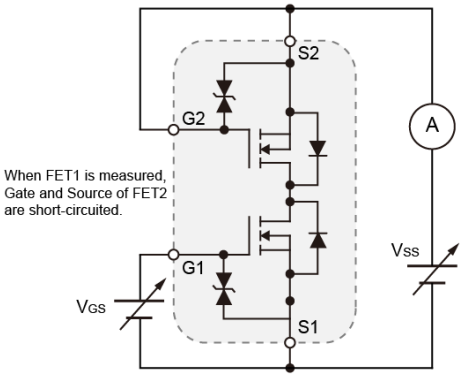
Test Circuit



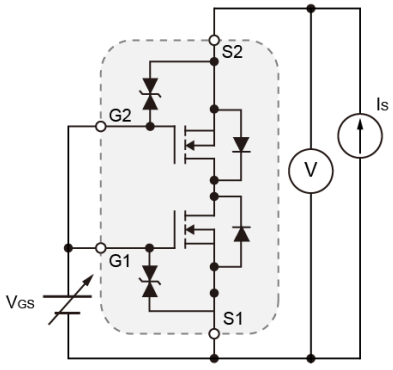
Test circuit 1. BV_{SSS}, I_{SSS}



Test circuit 2. I_{GSS}



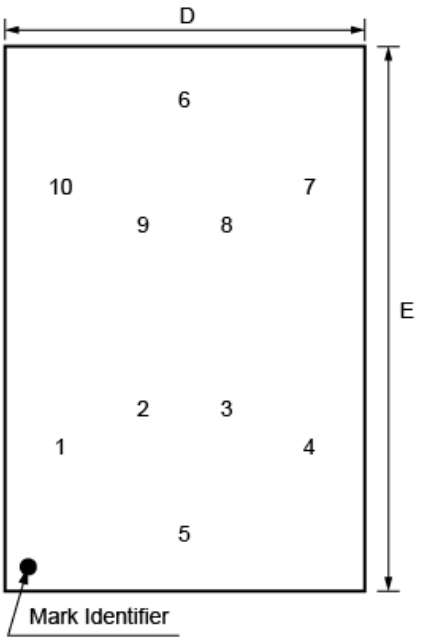
Test circuit 3. $V_{GS(th)}$



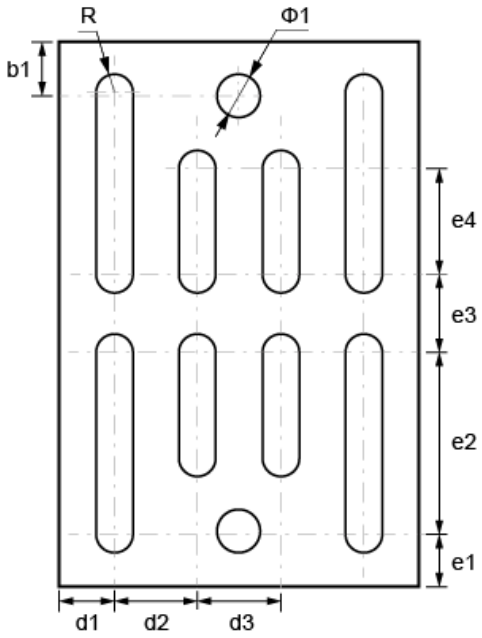
Test circuit 4. $R_{SS(ON)}$

CSP3.2*1.95-10L PACKAGE OUTLINE

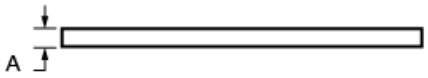
Top view



Bottom View



Front View



Symbol	Dimension (mm)			Symbol	Dimension (mm)		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	0.065	0.095	0.125	e1	0.30 BSC		
b1	0.325 BSC			e2	1.075 BSC		
D	1.90	1.95	2.00	e3	0.45 BSC		
d1	0.30 BSC			e4	0.63 BSC		
d2	0.45 BSC			R	0.10 BSC		
d3	0.45 BSC			Φ1	0.25 BSC		
E	3.15	3.20	3.25	-	-		

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