

Features

- 12V/13.5A,
 $R_{SS(ON)} = 1.8m\Omega(Typ.)@V_{GS}=4.5V$
 $R_{SS(ON)} = 1.9m\Omega(Typ.)@V_{GS}=3.8V$
 $R_{SS(ON)} = 2.2m\Omega(Typ.)@V_{GS}=3.1V$
 $R_{SS(ON)} = 2.9m\Omega(Typ.)@V_{GS}=2.5V$
- Excellent ON resistance for higher DC current
- Super High Dense Cell Design
- Chip Size Package
- ESD Protected

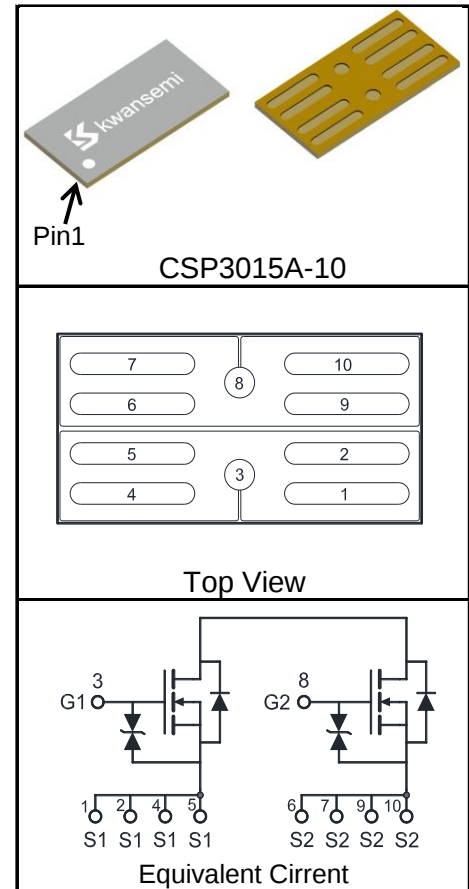
Applications

- Lithium Battery Protection



Halogen-Free

Pin Description



Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Common Ratings ($T_a=25^{\circ}C$ Unless Otherwise Noted)			
Source-Source Voltage	V_{SSS}	12	V
Gate-Source Voltage	V_{GSS}	± 8	
Maximum Junction Temperature	T_J	150	$^{\circ}C$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}C$
Mounted on Large Heat Sink ($T_a=25^{\circ}C$ Unless Otherwise Noted)			
Continuous Source Current($V_{GS}=4.5V$)	$I_S^{(1)}$	13.5	A
	$I_S^{(2)}$	33	
Pulse Source Current	$I_{SP}^{(3)}$	135	A
Maximum Power Dissipation	$P_D^{(1)}$	0.6	W
	$P_D^{(2)}$	3.5	
Thermal Resistance-Junction to Ambient	$R_{\theta JA}^{(1)}$	210	$^{\circ}C/W$
	$R_{\theta JA}^{(2)}$	36	$^{\circ}C/W$

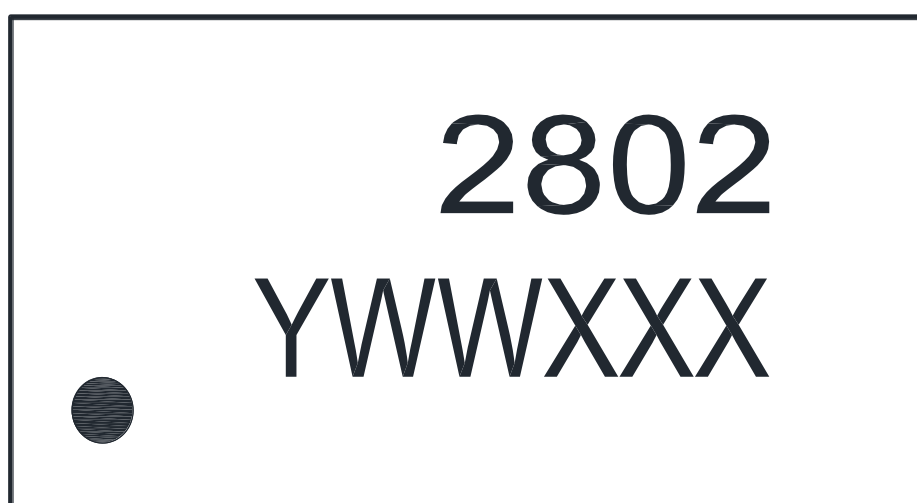
Electrical Characteristics ($T_a=25^{\circ}\text{C}$ Unless Otherwise Noted)

Symbol	Parameter	Test Condition	KS2802CAA			Unit
			Min.	Typ.	Max.	
Static Characteristics						
BV _{SSS}	Source-Source Breakdown Voltage	V _{GS} =0V, I _{SS} =1mA	12			V
I _{SSS}	Zero Gate Voltage Source Current	V _{SS} =12V, V _{GS} =0V			1	μA
V _{GS(th)}	Gate Threshold Voltage	V _{SS} =10V, I _{SS} =1mA	0.55	0.95	1.35	V
I _{GSS}	Gate Leakage Current	V _{GS} =±8V, V _S =0V			±10	μA
R _{SS(ON)}	Source-Source On-state Resistance	V _{GS} =4.5V, I _{SS} =3A	1.1	1.8	2.4	mΩ
		V _{GS} =3.8V, I _{SS} =3A	1.2	1.9	2.7	mΩ
		V _{GS} =3.1V, I _{SS} =3A	1.3	2.2	3.5	mΩ
		V _{GS} =2.5V, I _{SS} =3A	1.6	2.9	5.5	mΩ
Diode Characteristics						
V _{FSS}	Diode Forward Voltage	I _{SS} =6A, V _{GS} =0V		0.79	1.2	V
Dynamic Characteristics ^④						
R _G	Gate Resistance	F=1MHz		0.9		KΩ
C _{iSS}	Input Capacitance	V _{GS} =0V, V _{SS} =10V, Frequency=1KHz		3710		pF
C _{oSS}	Output Capacitance			675		
C _{rSS}	Reverse Transfer Capacitance			575		
t _{d(ON)}	Turn-on Delay Time	V _{DD} =6V, I _{SS} =3A, V _{GEN} =4.5V,R _G =3Ω		2.7		μs
t _r	Turn-on Rise Time			6		
t _{d(OFF)}	Turn-off Delay Time			4		
t _f	Turn-off Fall Time			14		
Gate Charge Characteristics ^④						
Q _g	Total Gate Charge	V _{SS} =6V, V _{GS} =4.5V, I _{SS} =3A		41		nC
Q _{gs}	Gate-Source Charge			6		
Q _{gd}	Gate-Source Charge			11		

Notes: ① Mounted on FR4 board (25.4 mm x 25.4 mm x t1.0 mm)using the minimum recommended pad size (36 μm Copper).
 ② Mounted on Ceramic substrate (70 mm x 70 mm x t1.0 mm)
 ③ $t = 10 \mu s$, Duty Cycle $\leq 1 \%$
 ④ Guaranteed by design, not subject to production testing.

Ordering and Marking Information

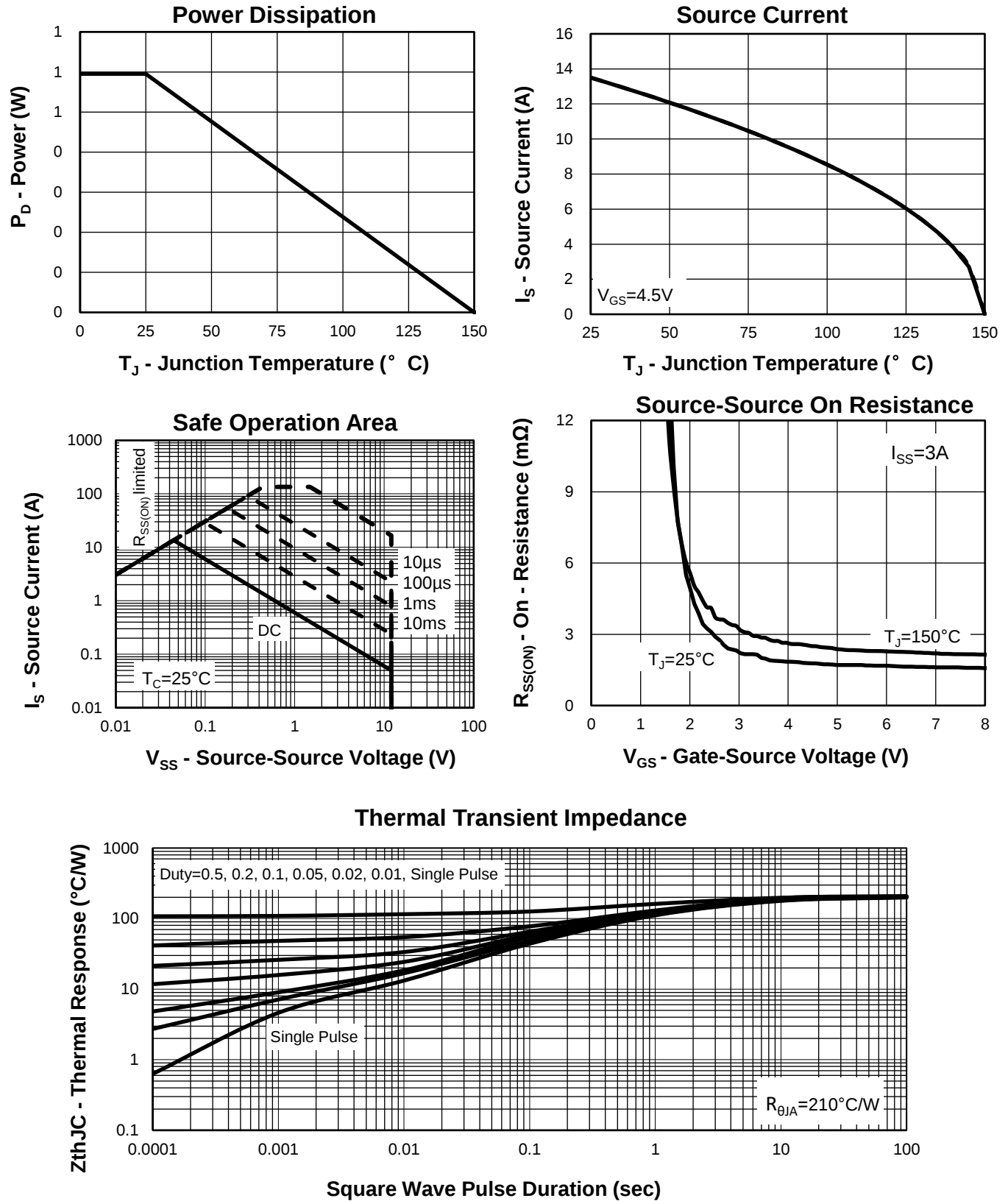
Device	Package	Packaging	Quantity	Reel Size	Tape width
KS2802CAA	CSP3015A-10	Tape&Reel	5000	7"	8mm



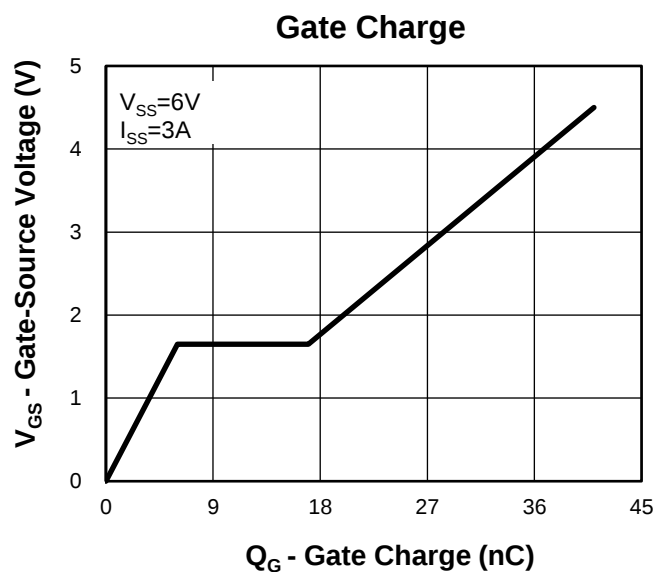
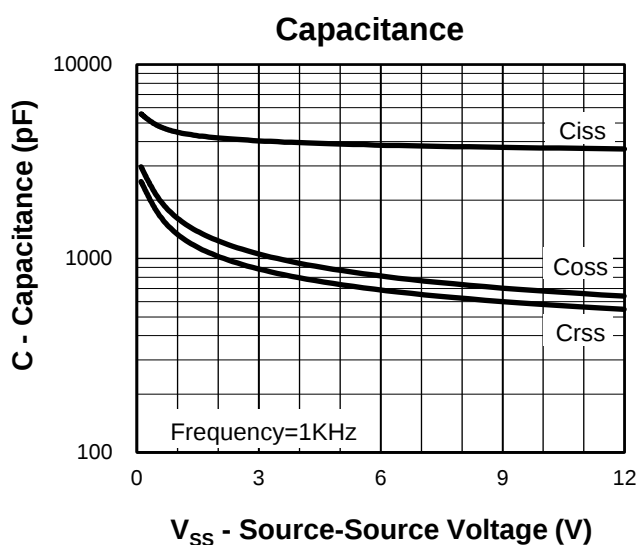
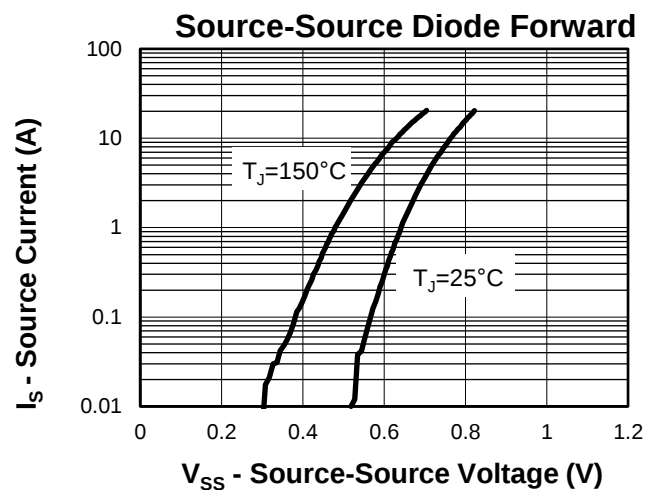
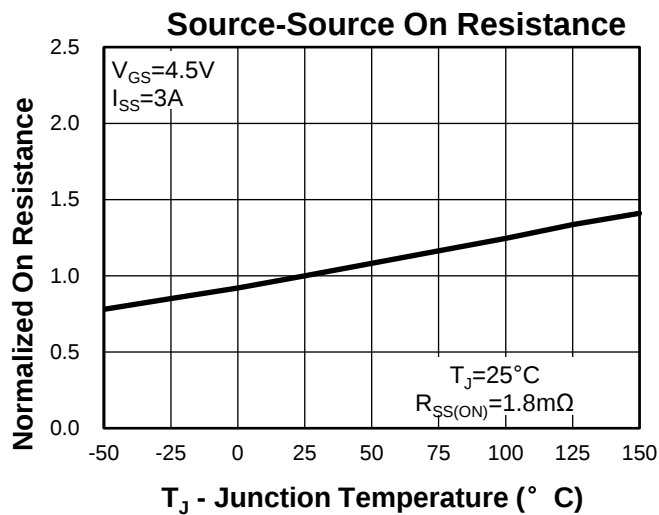
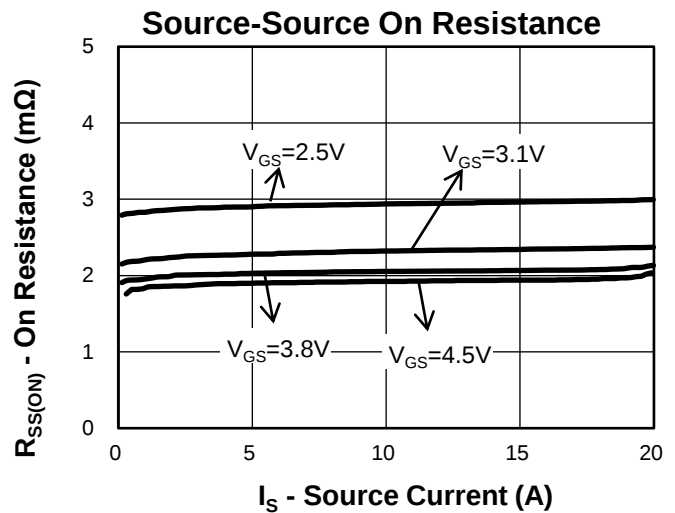
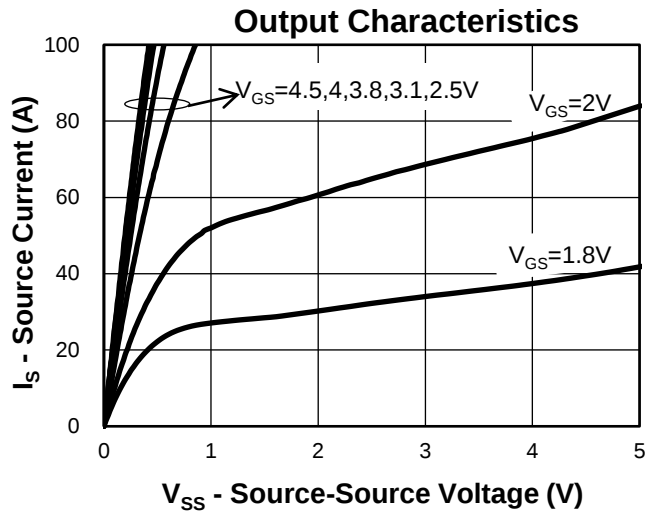
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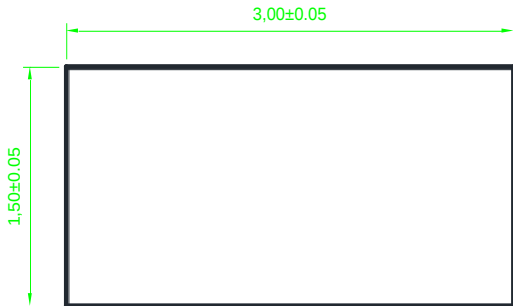
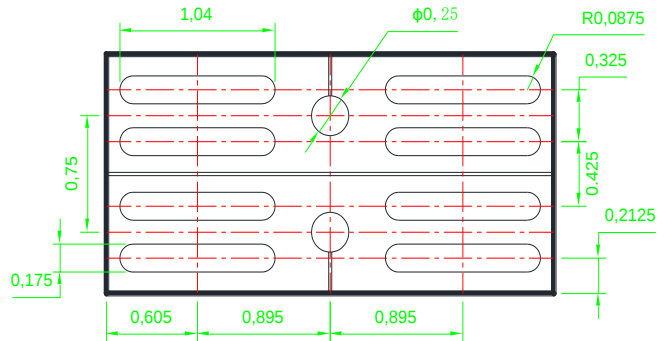
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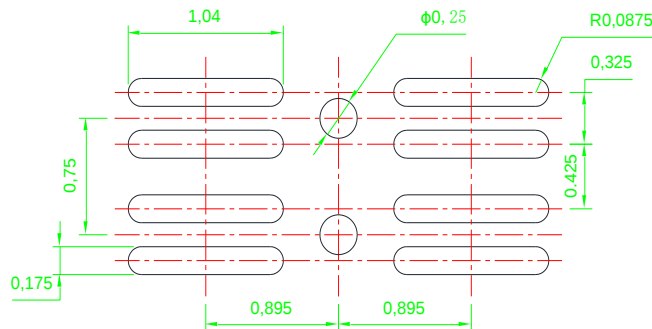
Typical Characteristics



Typical Characteristics

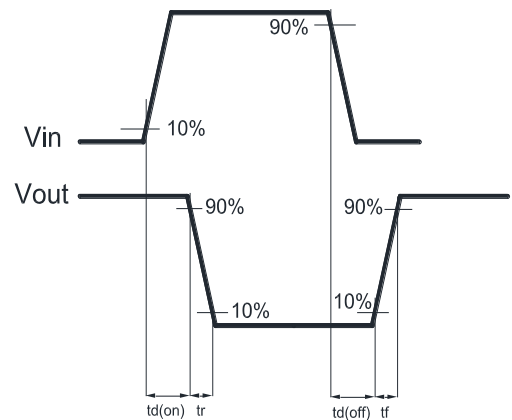
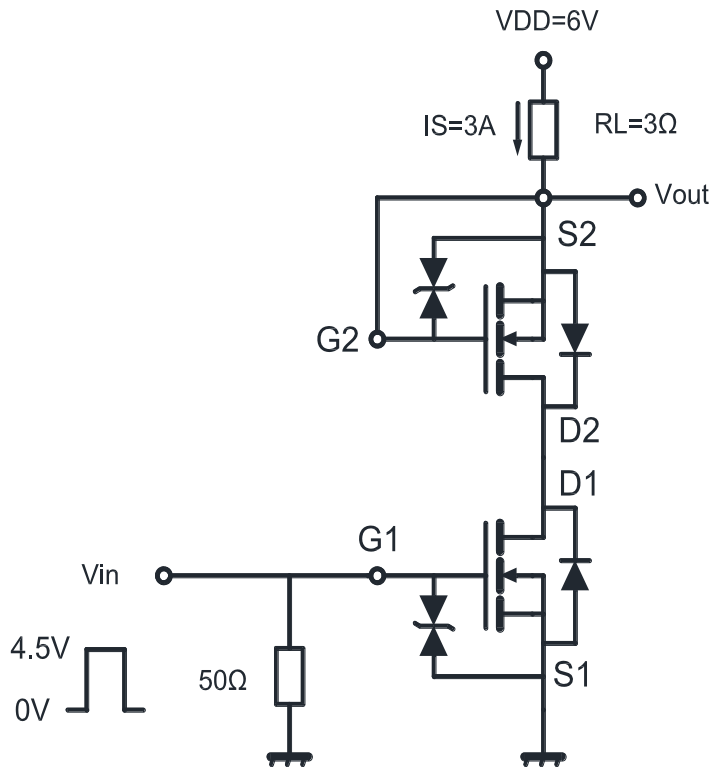


Package Information
CSP3015A-10

Top view

Bottom view

Front view

Land Pattern(Reference)

Unit:mm

Measurement Circuit



Customer Service

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