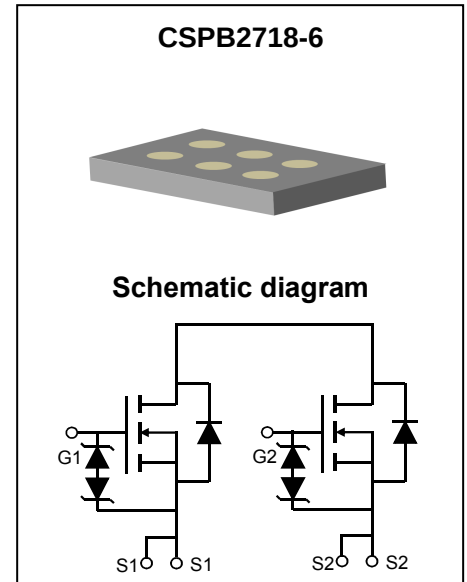


Product Summary

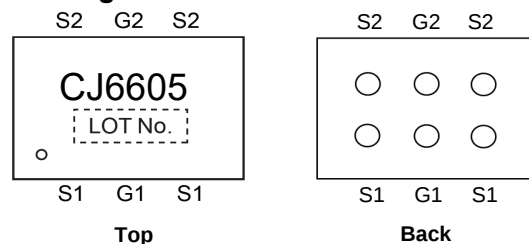
V _{SS}	R _{SS(on)} TYP	I _S
12V	4.8mΩ@4.5V	13A
	5.0mΩ@4.0V	
	5.2mΩ@3.8V	
	5.7mΩ@3.1V	
	6.5mΩ@2.5V	

Description

The GP6605SP uses advanced trench technology to provide excellent R_{SS(ON)}, low gate charge and operation with gate voltages as low as 2.5V while retaining a 12V V_{GS(MAX)} rating. It is ESD protected. This device is suitable for use as a unidirectional or bi-directional load switch, facilitated by its common-drain configuration.



Marking:



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Source - Source Voltage	V _{SS}	12	V
Gate - Source Voltage	V _{GS}	±12	V
Source Current(DC) ¹	I _S	13	A
Source Current (Pulse) ^{1,2}	I _{SM}	60	A
Power Dissipation ³	P _D	2.0	W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

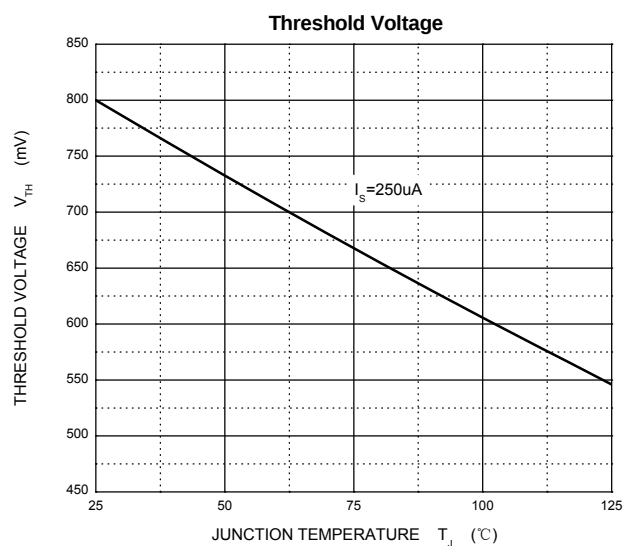
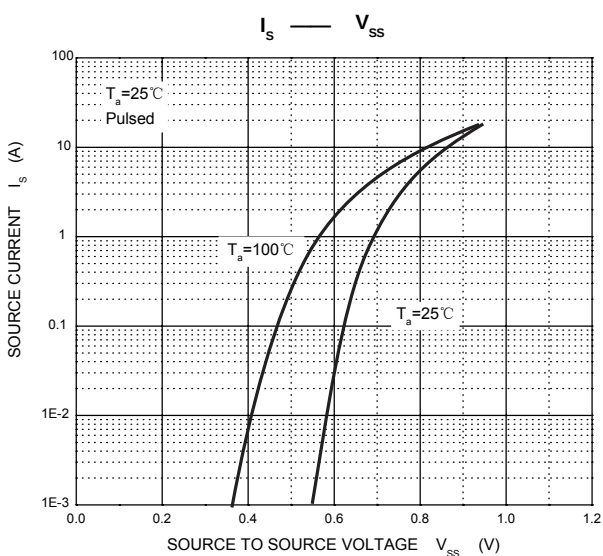
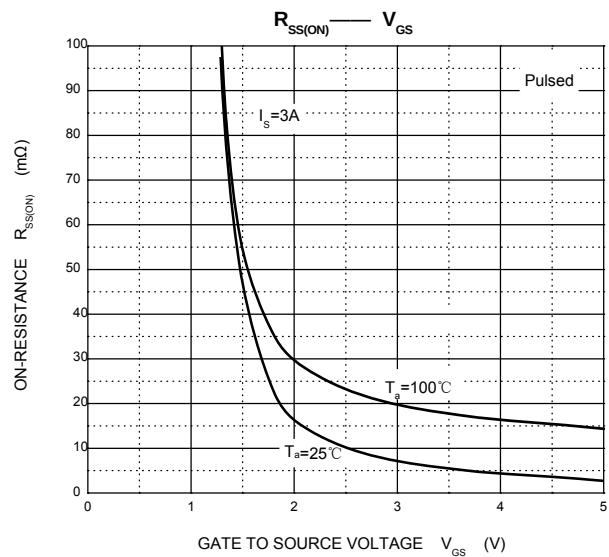
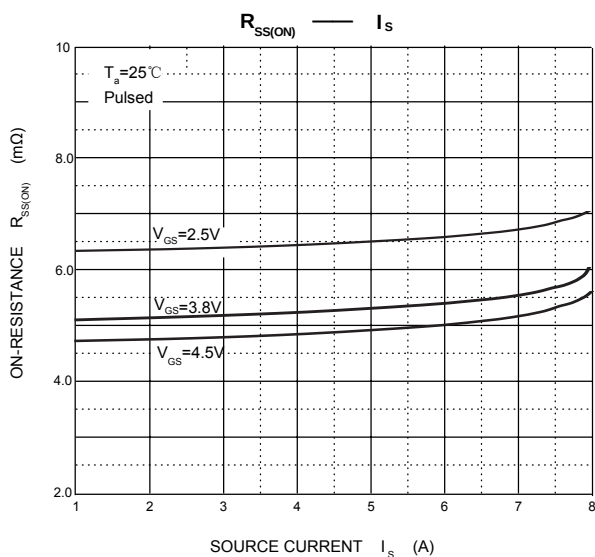
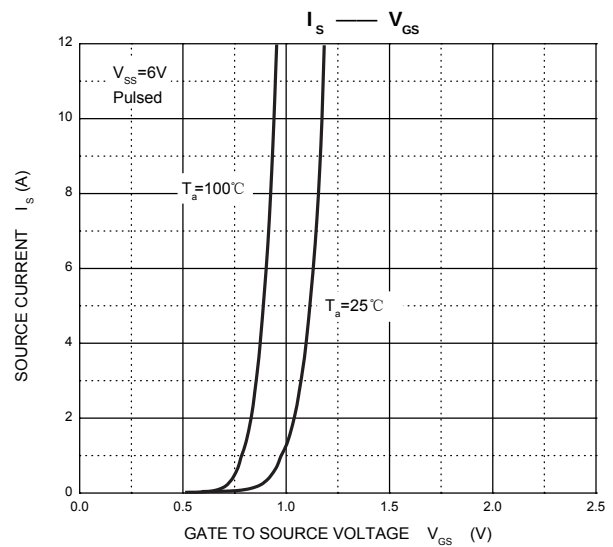
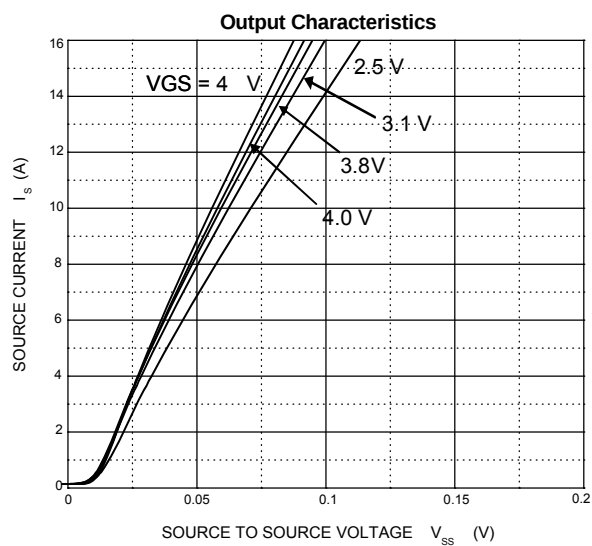
MOSFET ELECTRICAL CHARACTERISTICS($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Source - Source Breakdown Voltage	BV _{SSS}	I _S = 250μA, V _{GS} = 0V	12			V
Zero Gate Voltage Source Current	I _{SSS}	V _{SS} = 8V, V _{GS} = 0V			1	μA
Gate - Source Leakage Current	I _{GSS}	V _{SS} = 0V, V _{GS} = ±8V			±10	μA
On Characteristics						
Gate Threshold Voltage	V _{GS(th)}	V _{SS} = V _{GS} , I _S = 250μA	0.4	0.8	1.3	V
Forward Transconductance	g _{FS}	V _{SS} = 6V, I _S = 3A	6			S
Static Source - Source On-Resistance	R _{SS(on)}	V _{GS} = 4.5V, I _S = 3A	3.0	4.8	7.0	mΩ
		V _{GS} = 4.0V, I _S = 3A	3.2	5.0	7.5	
		V _{GS} = 3.8V, I _S = 3A	3.3	5.2	8.0	
		V _{GS} = 3.1V, I _S = 3A	3.5	5.7	8.5	
		V _{GS} = 2.5V, I _S = 3A	3.8	6.5	10.0	
Switching Characteristics						
Turn-On Delay Time	t _{d(on)}	V _{SS} = 10V, V _{GS} = 4.5V, R _G = 3Ω, R _L = 3.3Ω		3.2		ns
Turn-On Rise Time	t _r			7.8		
Turn-Off Delay Time	t _{d(off)}			28		
Turn-Off Fall Time	t _f			25		
Total Gate Charge	Q _g	V _{SS} = 10V, I _S = 6A,V _{GS} = 4.5V		36		nC
Source-Source Diode Characteristics						
Forward Source - Source Voltage	V _{FSS}	V _{GS} = 0V, I _S = 6A			1.2	V

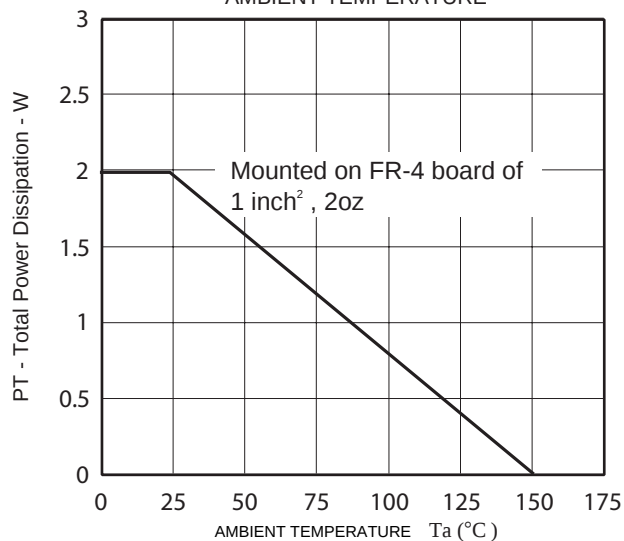
Notes:

1. Device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^{\circ}\text{C}$.
2. Pulse Test : Pulse Width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.
3. The power dissipation P_T is limited by $T_{J(MAX)} = 150^{\circ}\text{C}$.

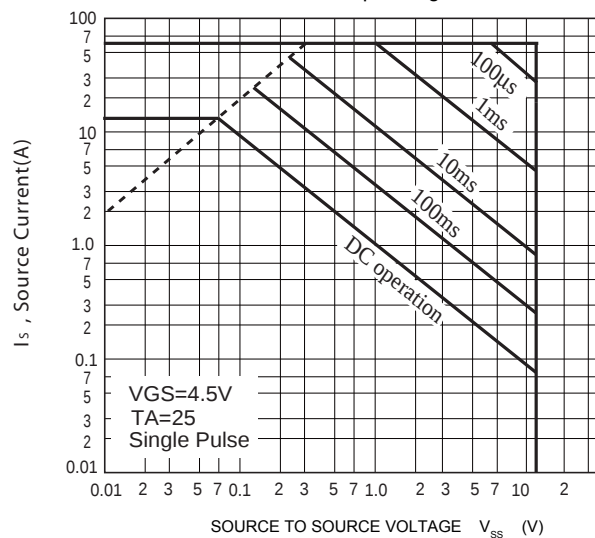
Typical Characteristics



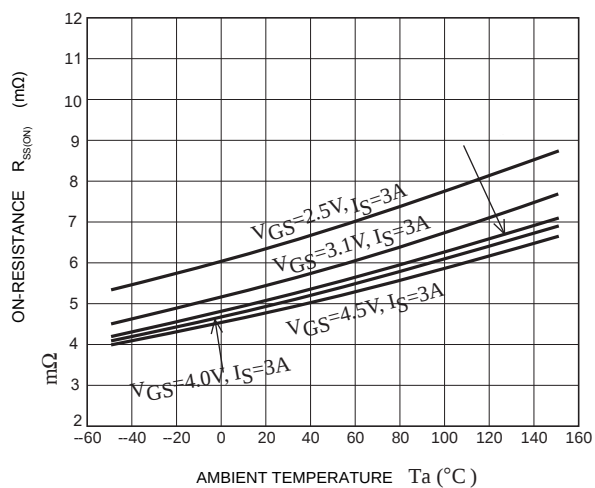
TOTAL POWER DISSIPATION vs.
AMBIENT TEMPERATURE

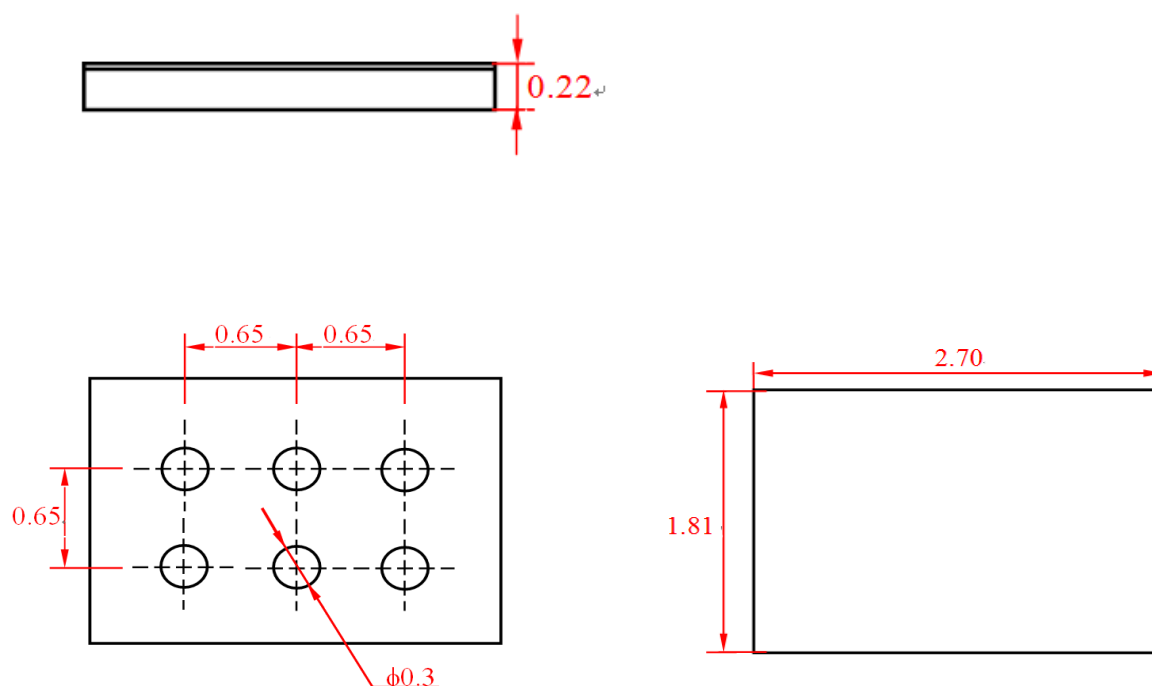
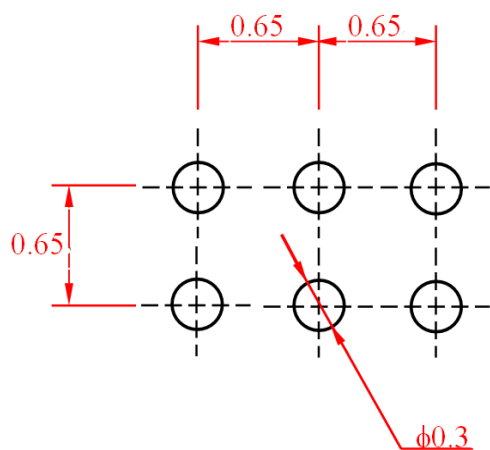


Maximum Safe Operating Area

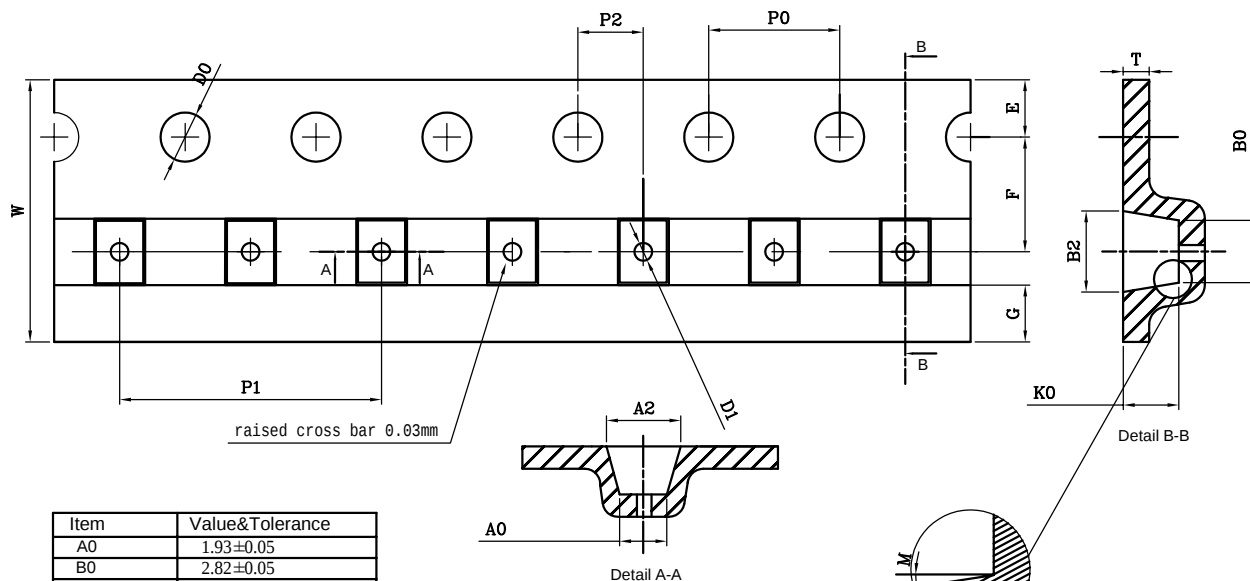


$R_{ss(ON)}$ — T_a



CSPB2718-6 Package Information(Unit:mm)

CSPB2718-6 Suggested Pad Layout (Unit:mm)

Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.050 mm.
3. The pad layout is for reference purposes only.

CSPB2718-6 Tape(Unit:mm)


Item	Value&Tolerance
A0	1.93±0.05
B0	2.82±0.05
K0	0.35±0.05
A2	NA
B2	NA
D0	1.50 +0.10/-0.00
D1	1.00±0.10
P0	4.00±0.10
P1	4.00±0.10
P2	2.00±0.05
E	1.75±0.10
F	5.50±0.05
G	NA
T	0.25±0.03
W	12.0 +0.30/-0.10
M	Max 5°