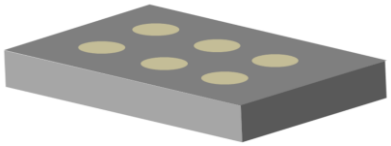
GP6601SP

20V Dual N-Channel MOSFET

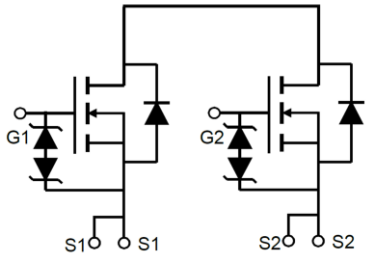
Product Summary

$V_{(BR)SSS}$	$R_{DS(on)TYP}$	I_{SS}
20V	8.0mΩ@4.5V	13A
	8.3mΩ@4.0V	
	8.5mΩ@3.8V	
	8.8mΩ@3.1V	
	9.9mΩ@2.5V	

CSPB2718-6



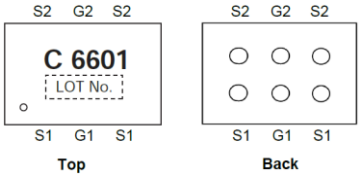
Schematic diagram



Description

The GP6601SP 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 and pin assignment:



ABSOLUTE MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Source to Source Voltage	V_{SSS}	20	V
Gate-Source Voltage	V_{GSS}	±12	V
Source Current(DC)[1]	I_S	13	A
Source Current (Pulse)[1,2]	I_{SP}	60	A
Total Dissipation	P_T	2.0	W
Channel Temperature	T_{ch}	150	℃
Storage Temperature	T_{STG}	-55 to +150	℃

Note:

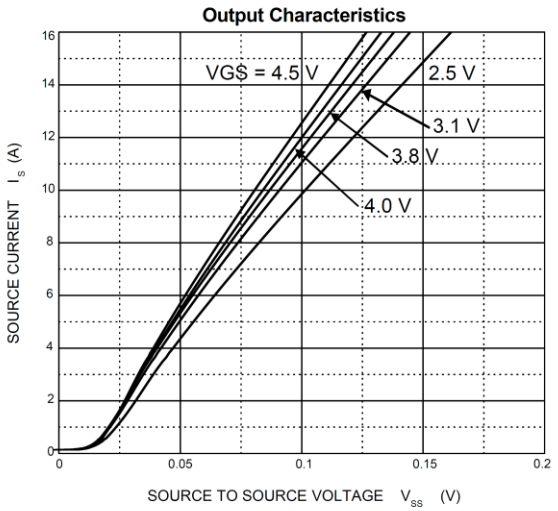
1、Mounted on FR4 board (25.4mm×25.4mm×t1.0mm)
using the minimum recommended pad size (36μm Copper).

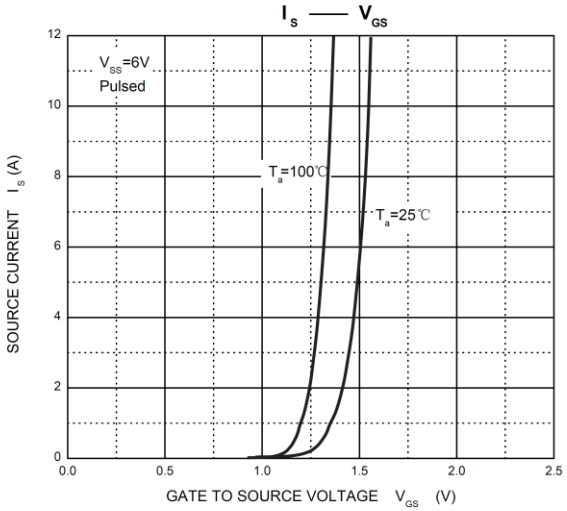
2、t = 10μs, Duty Cycle≤1%

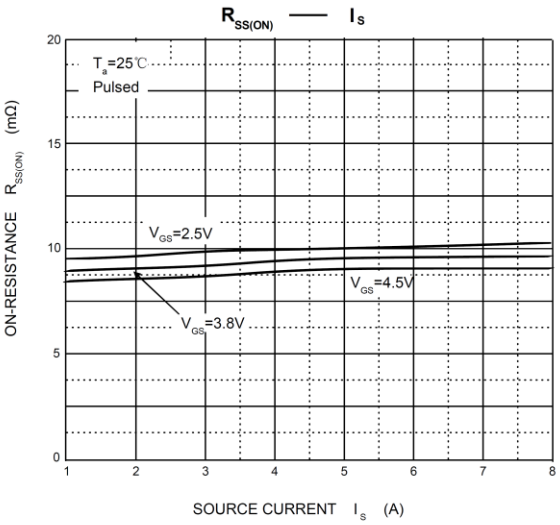
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

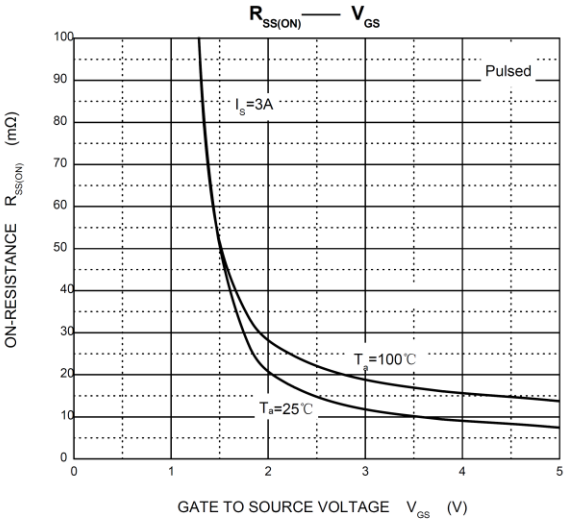
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Parameters						
Source to Source Breakdown Voltage	BV_{SSS}	I_S=1mA, V_{GS}=0V,	20			V
Zero- Gate Voltage Source Current	I_{SSS}	V_{SS}=20V, V_{GS}=0V			1	μA
Gate to Source Leakage Current	I_{GSS}	V_{SS}=0V, V_{GS}= ±8V			±10	μA
Cutoff Voltage	$V_{GS(off)}$	V_{SS}=10V, I_S=1mA	0.5	0.8	1.3	V
Forward Transfer Admittance	$\|yg_{FS}\|$	V_{SS}=10V,I_S=3A	6.5			S
Static Source to Source On-Resistance	$R_{SS(on)}$	V_{GS}=4.5V,I_S=3A		8.0	11.5	mΩ
		V_{GS}=4.0V,I_S=3A		8.3	12.0	
		V_{GS}=3.8V,I_S=3A		8.5	13.0	
		V_{GS}=3.1V,I_S=3A		8.8	15.0	
		V_{GS}=2.5V,I_S=3A		9.9	17.0	
Turn-on Delay Time	$t_{d(on)}$	V_{SS}=10V,I_S=3A V_{GS}=4.5V		1.5		μS
Turn-on Rise Time	t_r			5		
Turn-Off Delay Time	$t_{d(off)}$			40		
Turn-Off Fall Time	t_f			55		
Total Gate Charge	Q_g	V_{SS}=10V,I_S=6A,V_{GS}=4.5V		25.4		nC
Diode Forward Voltage	$V_{F(S-S)}$	V_{GS}=0V,I_S=6A		0.9	1.2	V

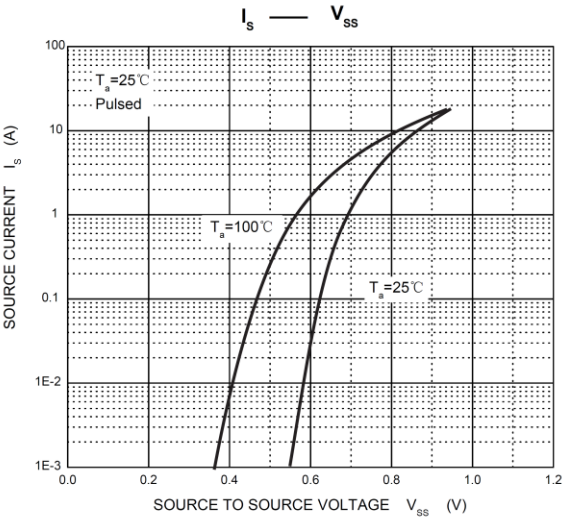
Typical Electrical and Thermal Characteristics

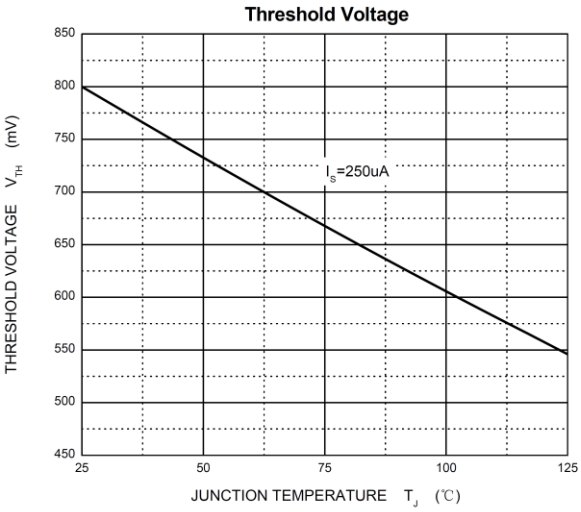


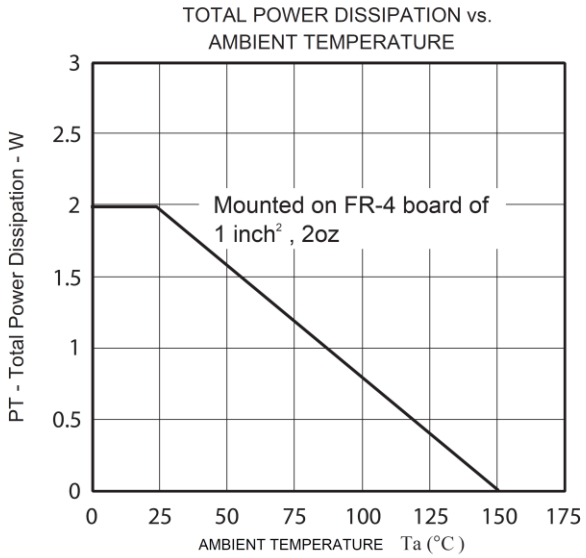


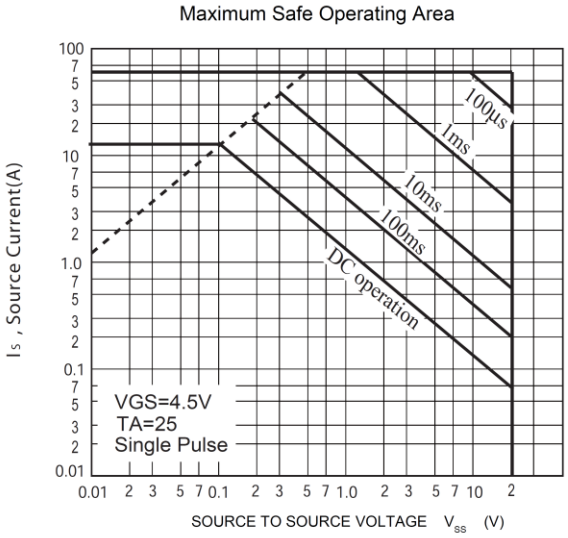


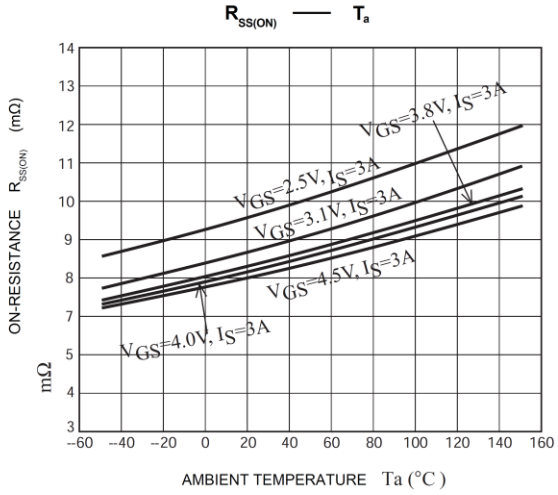




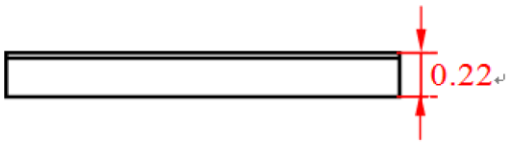


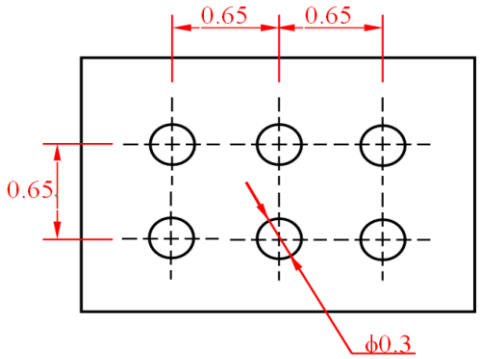


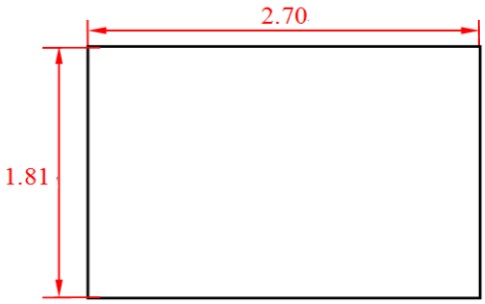




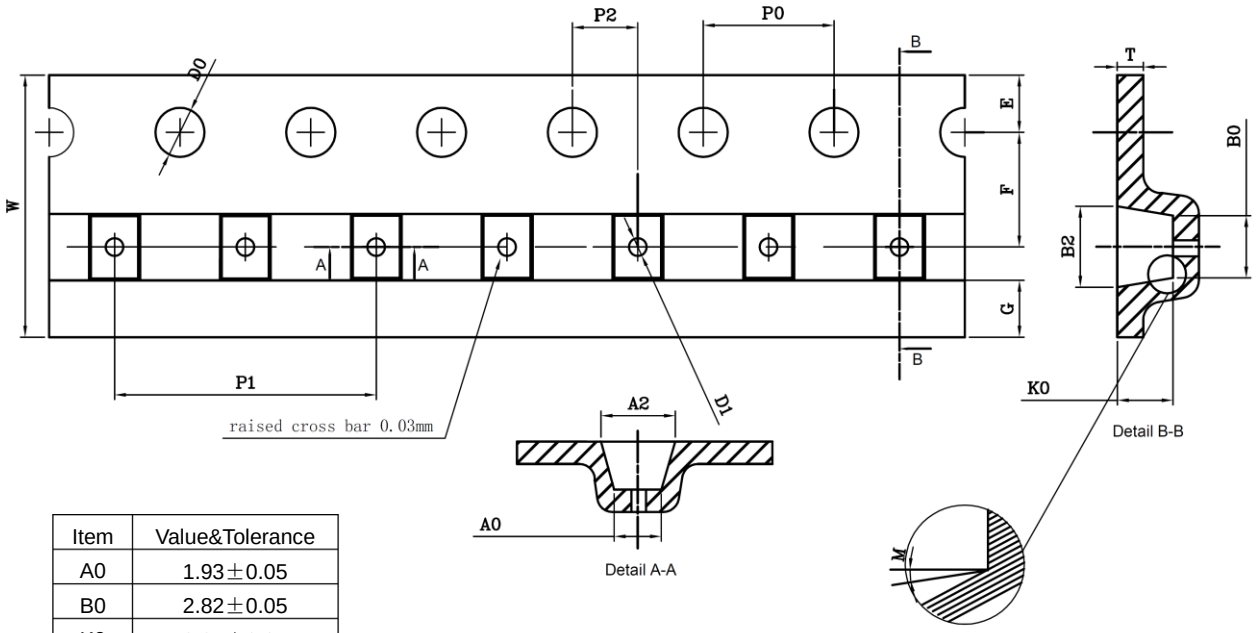
CSPB2718-6 Package Outline Dimensions(Unit:mm)







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°