

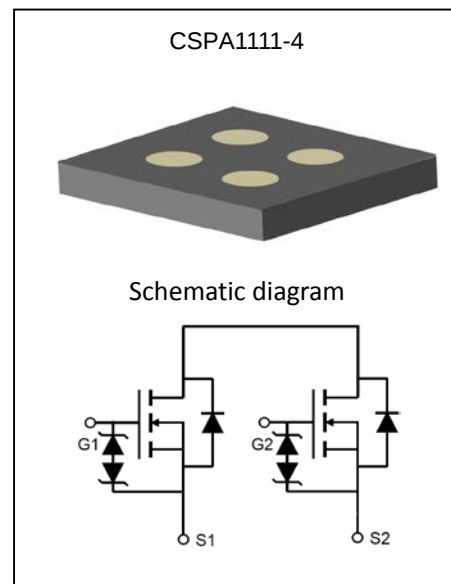
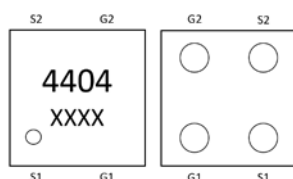
Product Summary

$V_{(BR)SSS}$	$R_{DS(on)TYP}$	I_{SS}
12V	22mΩ@4.5V	6A
	23mΩ@4.0V	
	24mΩ@3.8V	
	28mΩ@3.1V	
	34mΩ@2.5V	

Description

The GP4404SP uses advanced trench technology to provide excellent $R_{DS(on)}$, 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 ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Source to Source Voltage	V_{SSS}	12	V
Gate-Source Voltage	V_{GSS}	± 12	V
Source Current(DC) ¹	I_S	6.0	A
Source Current (Pulse) ^{1,2}	I_{SP}	60	A
Total Dissipation	P_T	1.4	W
Channel Temperature	T_{ch}	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$

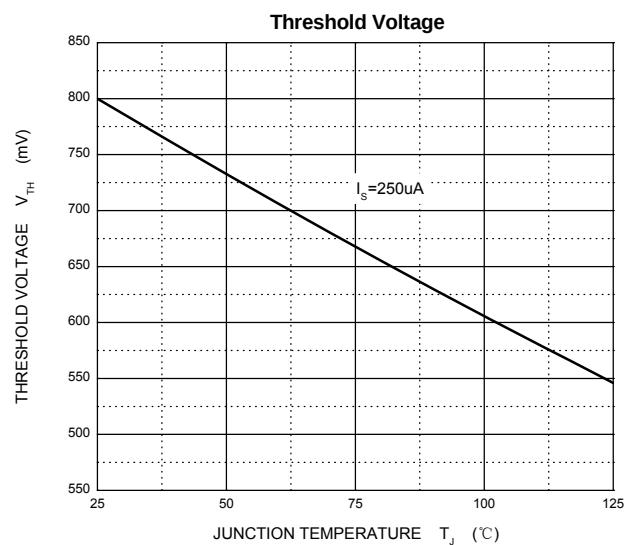
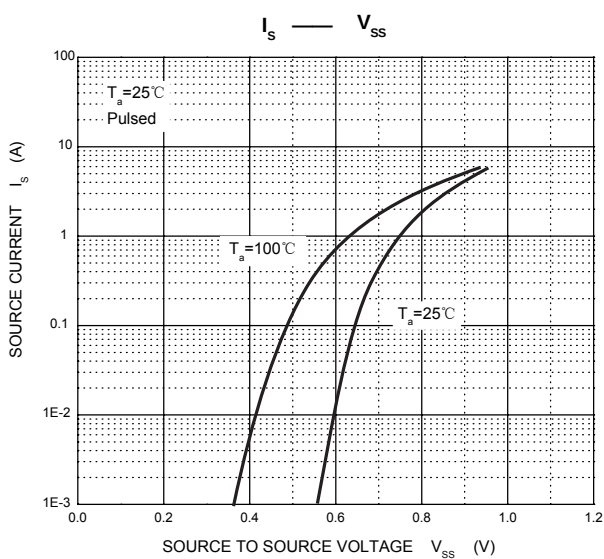
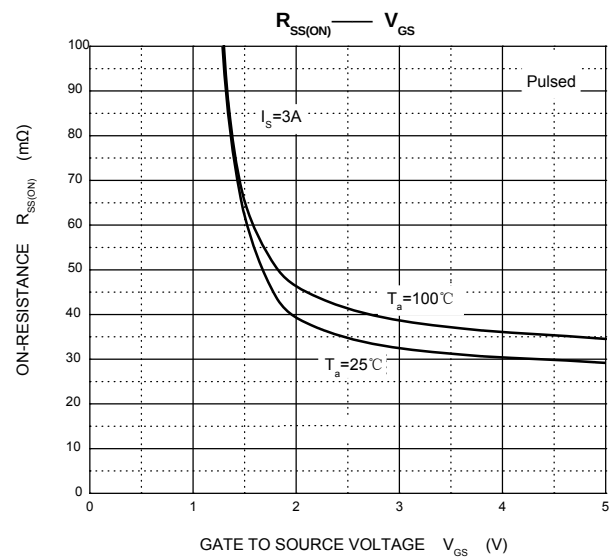
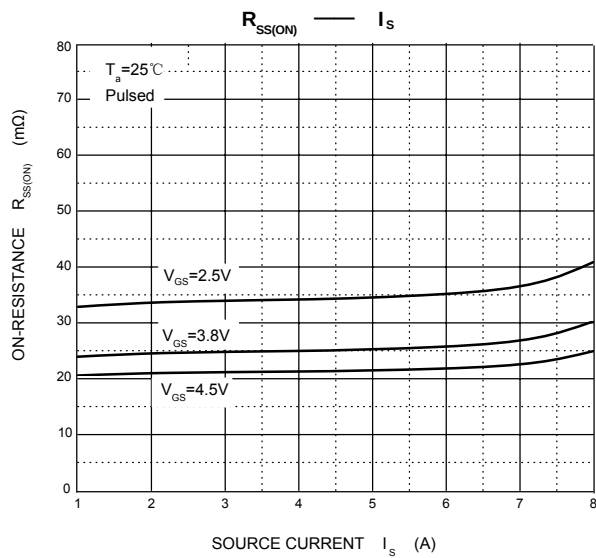
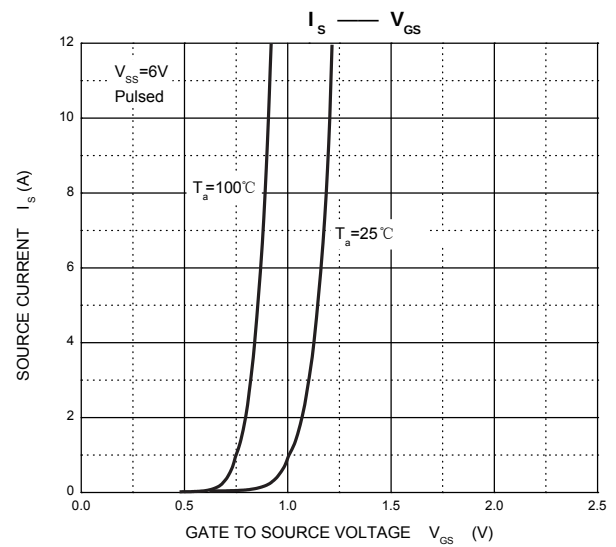
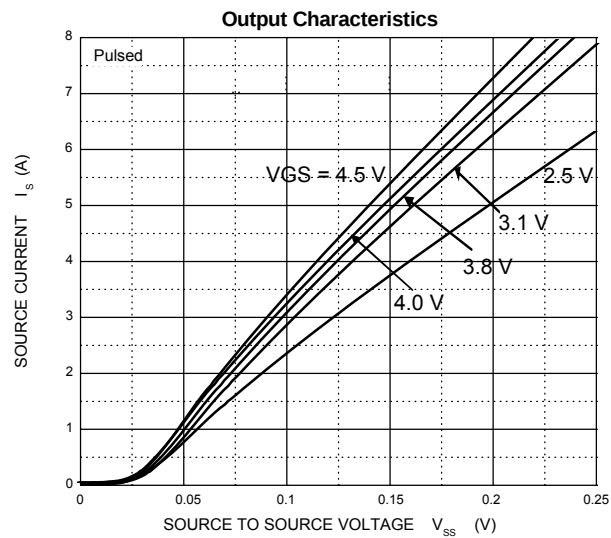
Note:

- 1、Mounted on FR4 board (25.4mm×25.4mm×t1.0mm) using the minimum recommended pad size (36μm Copper).
- 2、 $t = 10\mu\text{s}$, Duty Cycle≤1%

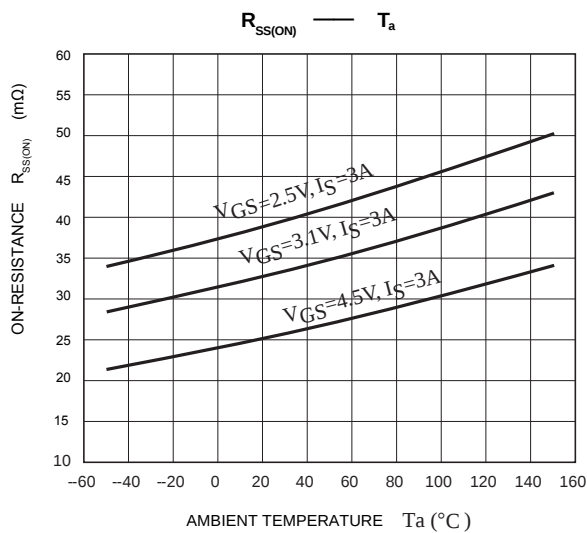
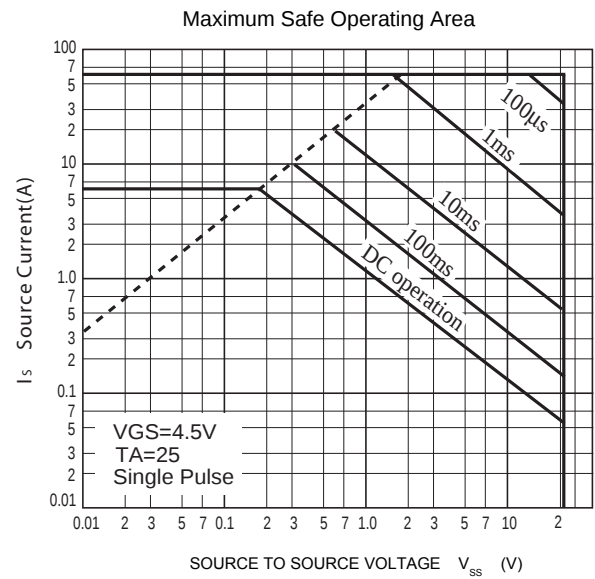
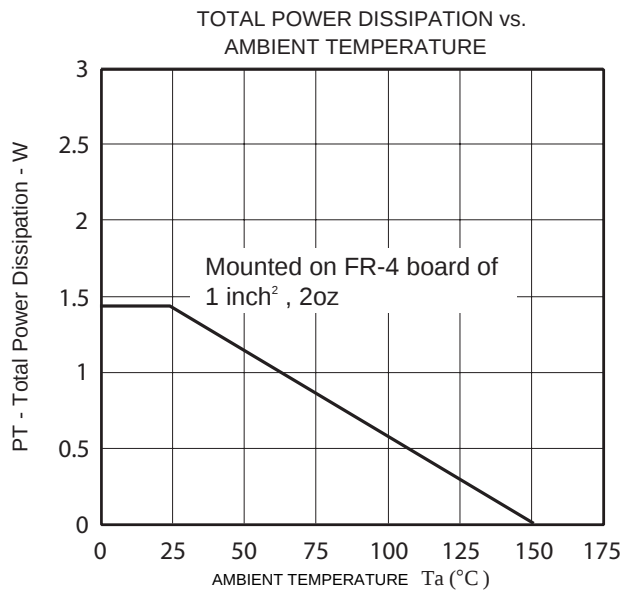
MOSFET ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Parameters						
Source to Source Breakdown Voltage	BV_{SSS}	$I_S=250\mu\text{A}$, $V_{GS}=0\text{V}$,	12			V
Zero- Gate Voltage Source Current	I_{SSS}	$V_{SS}=20\text{V}$, $V_{GS}=0\text{V}$			1	μA
Gate to Source Leakage Current	I_{GSS}	$V_{SS}=0\text{V}$, $V_{GS}=\pm 8\text{V}$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{SS}=10\text{V}$, $I_S=250\mu\text{A}$	0.5	0.8	1.3	V
Forward Transfer Admittance	$ y_{gfS} $	$V_{SS}=10\text{V}$, $I_S=3\text{A}$	1	7		S
Static Source to Source On-Resistance	$R_{SS(on)}$	$V_{GS}=4.5\text{V}$, $I_S=3\text{A}$	14	22	28	$\text{m}\Omega$
		$V_{GS}=4.0\text{V}$, $I_S=3\text{A}$	16	23	29	
		$V_{GS}=3.8\text{V}$, $I_S=3\text{A}$	18	24	30	
		$V_{GS}=3.1\text{V}$, $I_S=3\text{A}$	20	28	38	
		$V_{GS}=2.5\text{V}$, $I_S=3\text{A}$	22	34	48	
Turn-on Delay Time	$t_{d(on)}$	$V_{SS}=10\text{V}$, $I_S=3\text{A}$ $V_{GS}=4.5\text{V}$		19		ns
Turn-on Rise Time	t_r			228		
Turn-Off Delay Time	$t_{d(off)}$			128		
Turn-Off Fall Time	t_f			109		
Total Gate Charge	Q_g	$V_{SS}=10\text{V}$, $I_S=6\text{A}$, $V_{GS}=4.5\text{V}$		7.2		nC
Diode Forward Voltage	$V_{F(S-S)}$	$V_{GS}=0\text{V}$, $I_S=1\text{A}$			1.2	V

Typical Electrical and Thermal Characteristics



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CSPB1111-4 Package Outline Dimensions(Unit:mm)

