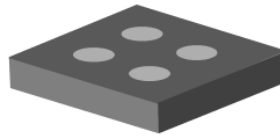
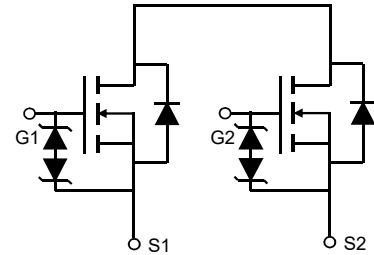


Main Product Characteristics

V_{SSS}	22V
$R_{SS(ON)}$	36m Ω
I_D	6A



CSP



Schematic Diagram

Features and Benefits

- Advanced MOSFET process technology
- Ideal for high efficiency switched mode power supplies
- Low on-resistance with low gate charge
- Fast switching and reverse body recovery



Description

The GSFCP0206 utilizes the latest techniques to achieve high cell density, low gate charge and low on-resistance. These features make this device extremely efficient and reliable for use in high efficiency switch mode power supply and a wide variety of other applications.

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Max.	Unit
Source-Source Voltage	V_{SSS}	22	V
Gate-Source Voltage	V_{GSS}	± 12	V
Source Current(DC) ¹	I_S	6	A
Source Current (Pulse) ^{1,2}	I_{SP}	60	A
Total Dissipation ¹	P_T	1.4	W
Channel Temperature	T_{ch}	+150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 To +150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Parameters						
Source-Source Breakdown Voltage	BV_{SSS}	$V_{GS}=0V, I_S=250\mu A$	22	-	-	V
Zero Gate Voltage Source Current	I_{SSS}	$V_{SS}=22V, V_{GS}=0V$	-	-	1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8V, V_{SS}=0V$	-	-	± 10	μA
Gate to Source Threshold Voltage	$V_{GS(th)}$	$V_{SS}=10V, I_S=250\mu A$	0.5	0.8	1.3	V
Forward Transfer Admittance	$ y_{gFS} $	$V_{SS}=10V, I_S=3A$	1	7	-	S
Static Source to Source On-Resistance	$R_{SS(ON)}$	$V_{GS}=4.5V, I_S=3A$	21.0	30.0	36.0	m Ω
		$V_{GS}=4.0V, I_S=3A$	22.0	31.0	38.0	
		$V_{GS}=3.8V, I_S=3A$	23.0	32.0	40.0	
		$V_{GS}=3.1V, I_S=3A$	26.0	35.0	45.0	
		$V_{GS}=2.5V, I_S=3A$	30.0	42.0	60.0	
Turn-On Delay Time	$t_{d(on)}$	$V_{SS}=10V, I_S=3A$ $V_{GS}=4.5V$	-	0.7	-	μS
Turn-On Rise Time	t_r		-	3.8	-	
Turn-Off Delay Time	$t_{d(off)}$		-	10	-	
Turn-Off Fall Time	t_f		-	10	-	
Total Gate Charge	Q_g	$V_{SS}=10V, I_S=6A,$ $V_{GS}=4.5V$	-	7.2	-	nC
Diode Forward Voltage	$V_{F(S-S)}$	$V_{GS}=0V, I_S=1A$	-	-	1.2	V

Notes:

1. Mounted on FR4 board (25.4 mm x 25.4 mm x t1.0 mm) using the minimum recommended pad size (36 μ m Copper).
2. $t=10\mu s$, Duty Cycle $\leq 1\%$.

Typical Electrical and Thermal Characteristic Curves

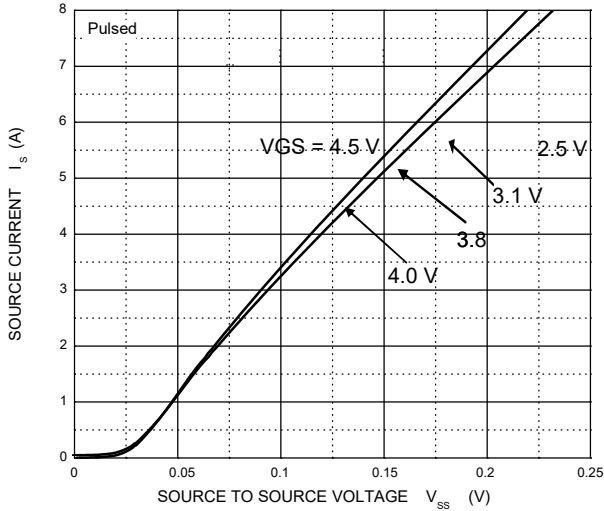


Figure 1. Output Characteristics

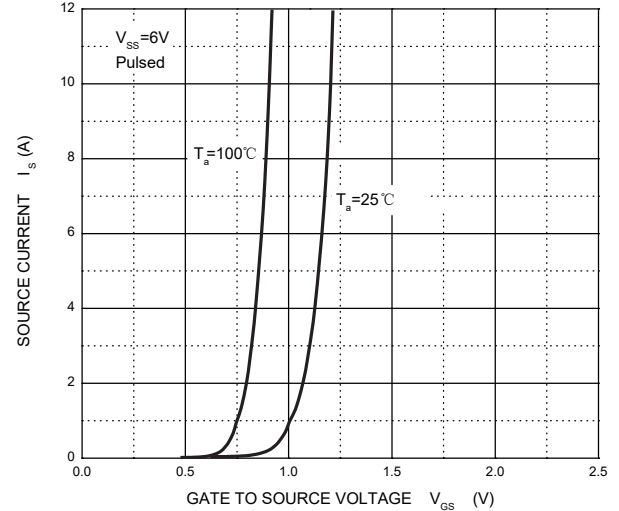


Figure 2. Transfer Characteristics

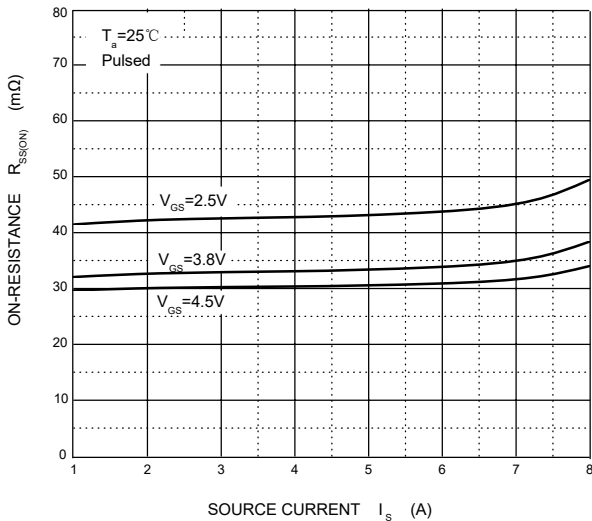


Figure 3. $R_{SS(ON)}$ -Source Current

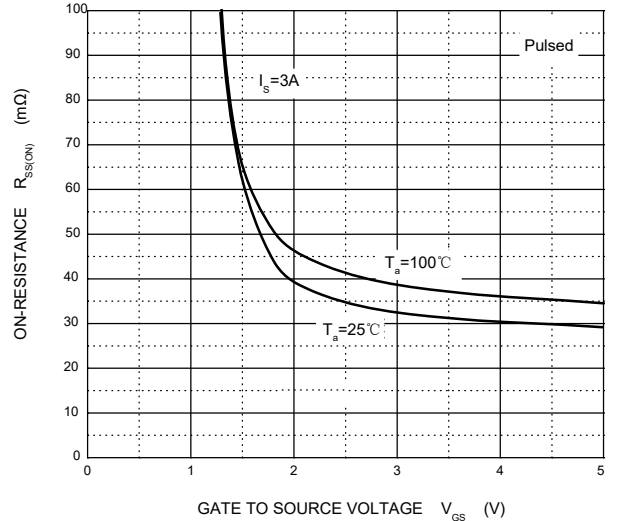


Figure 4. $R_{SS(ON)}$ -Gate to Source Voltage

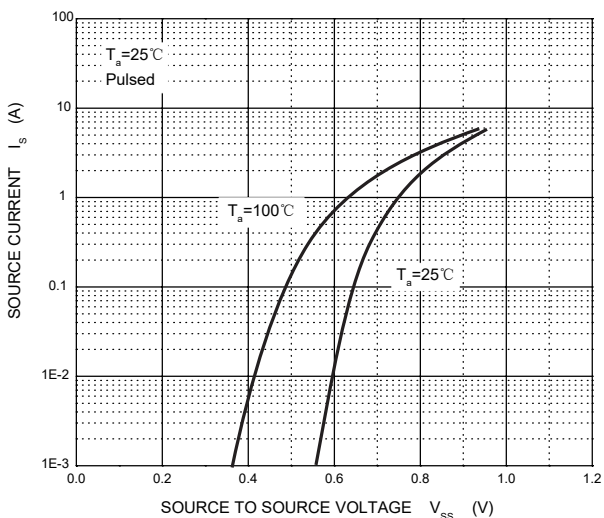


Figure 5. Source-Source Diode Forward

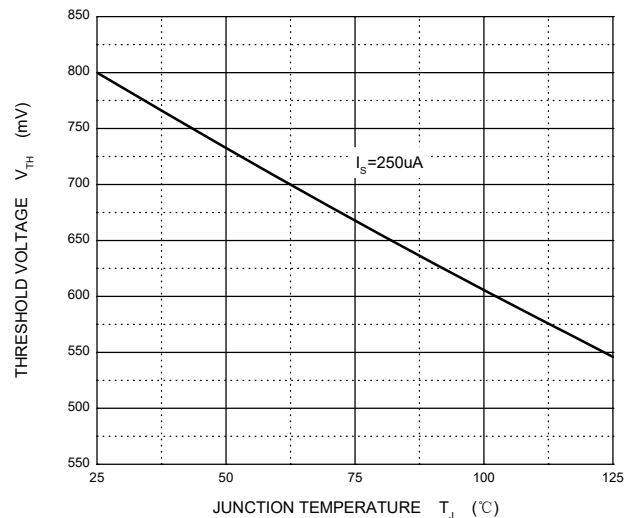


Figure 6. Threshold Voltage -Junction Temperature

Typical Electrical and Thermal Characteristic Curves

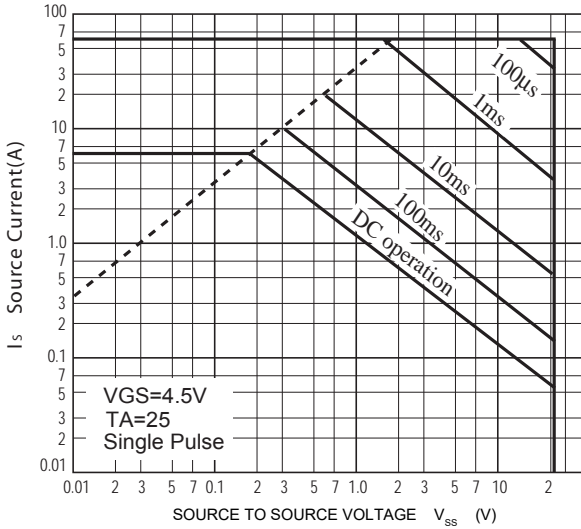


Figure 7. Safe Operation Area

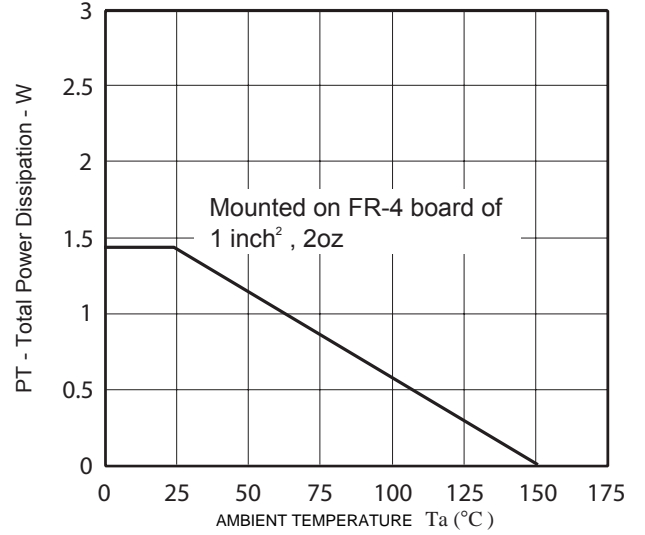


Figure 8. Power Dissipation - Ambient Temperature

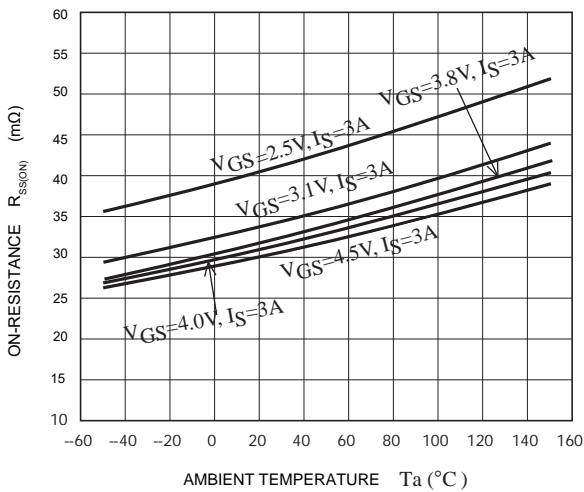
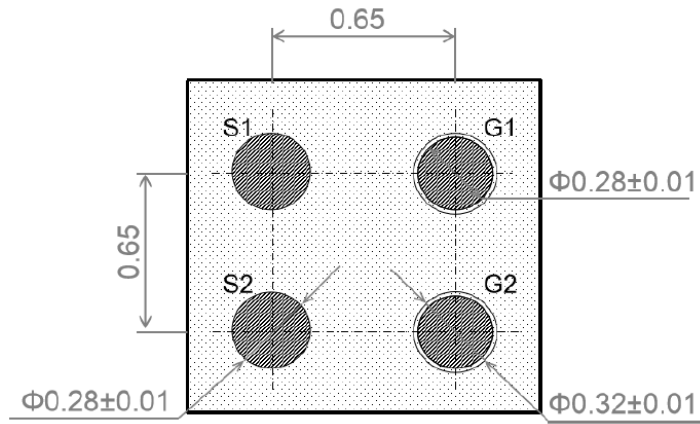
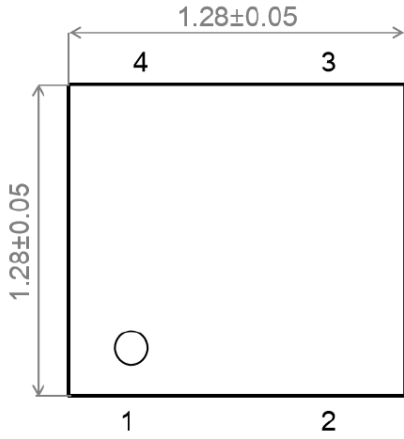
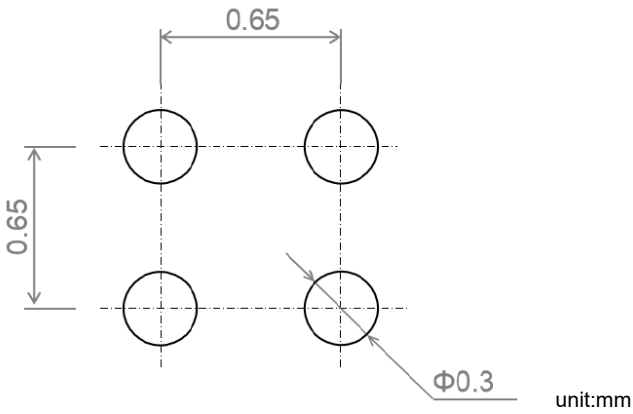


Figure 9. Rss(on) - Ambient Temperature

Package Outline Dimensions (CSP)



Recommended Pad Layout



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