



**Solid State Devices, Inc.**

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# SFF7002KA2GW

## Dual Microminiature Package 300 mA 60 Volts 2 Ω Dual N-Channel Logic Level TrenchFET MOSFET

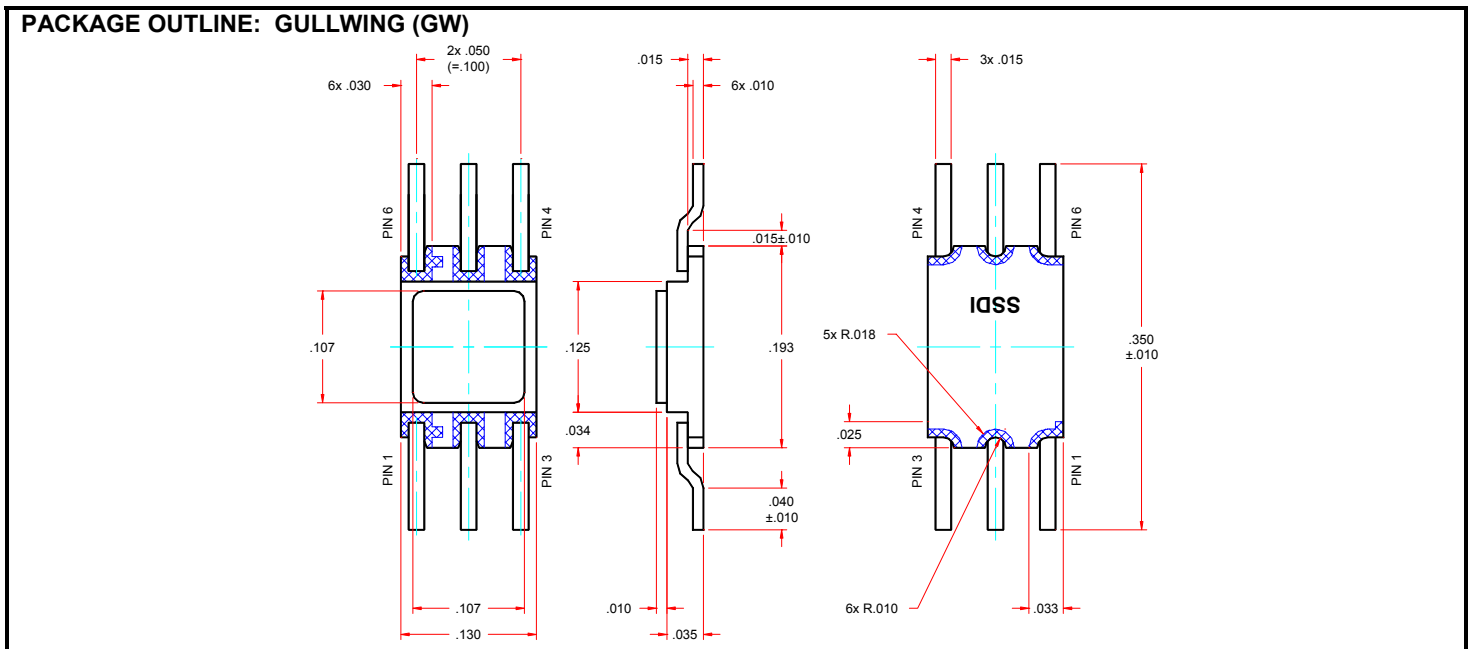
### DESIGNER'S DATA SHEET

**Part Number / Ordering Information**<sup>1/</sup>  
**SFF7002KA2**

Screening<sup>2/</sup>        = Not Screened  
                   TX = TX Level  
                   TXV = TXV Level  
                   S = S Level  
 Package<sup>3/</sup> GW = GULLWING

- Features:**
- Low On-resistance, < 2 ohm
  - Low Input Capacitance, < 25 pF
  - Low threshold voltage, < 2 V
  - Fast switching, < 25 ns
  - TX, TXV, and S-Level Screening Available. Consult Factory

Maximum Ratings	Symbol	Value	Units
Gate – Source Voltage	$V_{GS}$	20	Volts
Drain to Source Voltage	$V_{DS}$	60	Volts
Continuous Drain Current <span style="float: right;"><math>T_A = 25^\circ C</math> <math>T_A = 100^\circ C</math></span>	$I_D$	300 190	mA
Instantaneous (pulsed) Drain Current, $T_j$ limited	$I_{DM}$	800	mA
Power Dissipation @ $T_A = 25^\circ C$	$P_D$	350 500	mW mW
Maximum Thermal Resistance, Junction to PCB	$R_{\theta J-PCB}$ <sup>5/</sup>	250	°C/W
Operating & Storage Temperature	$T_{OP}$ & $T_{STG}$	-65 to +200	°C



**NOTE:** All specifications are subject to change without notification. SCDD's for these devices should be reviewed by SSDI prior to release.

**DATA SHEET #: FT0024A**

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# SFF7002KA2GW

Electrical Characteristics <sup>4/</sup>		Symbol	Min	Typ	Max	Units
Gate – Source Breakdown Voltage	$I_G = 10 \mu A, V_{DS} = 0 V$	$BV_{DSS}$	60	70	—	Volts
Gate to Source Threshold Voltage	$V_{DS} = V_{GS}, I_D = 0.25 mA$	$V_{GS(th)}$	1.0	2.0	2.5	Volts
Gate to Source Leakage Current	$V_{GS} = +/-20 V, V_{DS} = 0 V$ $V_{GS} = +/-10 V, V_{DS} = 0 V$ $V_{GS} = +/-5 V, V_{DS} = 0 V$ $V_{GS} = +/-10 V, V_{DS} = 0 V, T_A = 85^\circ C$	$I_{GSS}$		0.0005	10 150 100 1000	$\mu A$ nA nA nA
Zero Gate Voltage Drain Current	$V_{DS} = 50 V, V_{GS} = 0 V$ $V_{DS} = 60 V, V_{GS} = 0 V$ $V_{DS} = 50 V, V_{GS} = 0 V, T_A = 85^\circ C$ $V_{DS} = 60 V, V_{GS} = 0 V, T_A = 125^\circ C$	$I_{DSS}$		0.4	10 1 100 500	nA $\mu A$ nA $\mu A$
On-state Drain Current	$V_{DS} = 7.5 V, V_{GS} = 10 V$ $V_{DS} = 4.5 V, V_{GS} = 10 V$ $V_{DS} = 25 V, V_{GS} = 10 V$	$I_{D(ON)}$	800 500 -	- - 2.1		mA mA A
Drain – Source On-Resistance	$I_D = 500 mA, V_{GS} = 10 V$ $I_D = 200 mA, V_{GS} = 10 V$ $I_D = 50 mA, V_{GS} = 5 V$	$R_{DS(ON)}$		2.8 4.0 3.5	3.5 - -	$\Omega$ $\Omega$ $\Omega$
Transconductance	$I_D = 200 mA, V_{DS} = 10 V$	$G_{FS}$	100			mS
Body Diode Forward Voltage	$I_S = 200 mA, V_{GS} = 0 V$	$V_{SD}$			1.3	V
Total Gate Charge	$V_{DS} = 10 V, V_{GS} = 4.5 V, I_D = 250 mA$	$Q_g$	-		0.6	nC
Input Capacitance	$V_{DS} = 25 V, V_{GS} = 0 V, f = 1 MHz$	$C_{iss}$	—	30	-	pF
Output Capacitance	$V_{DS} = 25 V, V_{GS} = 0 V, f = 1 MHz$	$C_{oss}$	—	6	-	pF
Reverse Transfer Capacitance	$V_{DS} = 25 V, V_{GS} = 0 V, f = 1 MHz$	$C_{rss}$	—	2.5	-	pF
Turn-on time	$V_{DD} = 30 V, I_D = 200 mA,$ $R_L = 150 \Omega, R_G = 10 \Omega, V_G = 10 V$	$t_{ON}$	—	10	25	ns
Turn-off time		$t_{OFF}$	—	13	35	ns

**NOTES:**

\* Pulse Test: Pulse Width = 100  $\mu$ sec, Duty Cycle = 2%

1/ For Ordering Information, Price, and Availability Contact Factory.

2/ Screening per MIL-PRF-19500

3/ For Package Outlines Contact Factory.

4/ Unless Otherwise Specified, All Electrical Characteristics @25°C

5/ Mounted on FR1 PCB

**Available Part Numbers:**  
**SFF7002KA2GW**

PIN ASSIGNMENT						
Package	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6
Gullwing	Drain	Gate	Source	Drain	Gate	Source

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