



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638
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DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SFL22P06

Screening^{2/}

— = Not Screened
TX = TX Level
TXV = TXV Level
S = S Level

Package

S.5 = SMD.5

SFL22P06S.5

-22 AMP

Rad Tolerant

P-Channel Logic Level

POWER MOSFET

-60 Volts, 0.08 Ω

Features:

- Fast Switching Speed
- Low Total Gate Charge
- 5 V TTL/CMOS Compatible Operation
- Simple Drive
- Ceramic, Surface Mount Package
- Hermetically Sealed
- TX, TXV, and Space Level Screening Available
- Replacement for JANS2N7624U3

Maximum Ratings ^{3/}	Symbol	Value	Unit
Drain – Source Voltage	V_{DS}	-60	V
Gate – Source Voltage	V_{GS}	± 20	V
Continuous Drain Current $T_C = 25^\circ\text{C}$, $V_{GS} = -10\text{ V}$	I_{D1} I_{D2}	-22 -8.9	A
Pulsed Drain Current	I_{DM}	-30	A
Power Dissipation Linear Derating Factor	P_D	40 0.317	W W/ $^\circ\text{C}$
Avalanche Current, Single Pulse	I_{AS}	-22	A
Repetitive Avalanche Energy, Single Pulse ^{4/}	E_{AS}	75 (typ 120)	mJ
Operating & Storage Temperature	T_{OP} & T_{STG}	-55 to +150	$^\circ\text{C}$
Thermal Resistance	$R_{\theta JC}$	3.15	$^\circ\text{C/W}$

NOTES:

*Pulsed per MIL-STD-750.

^{1/} For ordering information, price, and availability - contact factory.

^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.

^{3/} Unless otherwise specified, all electrical characteristics @ 25°C .

^{4/} Duty cycle $\leq 1\%$, $L = 0.5\text{ mH}$

SMD.5 (S.5)



*Dime used for size reference

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

DATA SHEET #: FT0088E

DOCX



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SFL22P06S.5

Electrical Characteristics ^{3/}	Symbol	Min	Typ	Max	Unit
Drain to Source Breakdown Voltage $V_{GS} = 0\text{ V}$, $I_D = -250\text{ }\mu\text{A}$	BV_{DSS}	-60	-70	—	V
Temperature Coefficient of Breakdown Voltage Reference to 25°C , $I_D = -1.0\text{ mA}$	$\frac{\Delta BV_{DSS}}{\Delta T_J}$	—	-0.06	—	V/ $^\circ\text{C}$
Drain to Source On State Resistance* $V_{GS} = -5\text{ V}$, $I_D = -22\text{ A}$ $V_{GS} = -10\text{ V}$, $I_D = -10\text{ A}$ $V_{GS} = -10\text{ V}$, $I_D = -10\text{ A}$, $T_J = 150^\circ\text{C}$	$R_{DS(on)}$	— — —	0.078 0.050 0.100	0.089 0.060 —	Ω
Gate Threshold Voltage $V_{DS} = V_{GS}$, $I_D = -250\text{ }\mu\text{A}$	$V_{GS(th)}$	-1.0	-2.3	-2.5	V
Gate Threshold Voltage Coefficient $V_{DS} = V_{GS}$, $I_D = -250\text{ }\mu\text{A}$	$\frac{\Delta V_{GS}}{\Delta T_J}$	—	5	—	mV/ $^\circ\text{C}$
Forward Transconductance $V_{DS} = -15\text{ V}$, $I_D = -10\text{ A}^*$	g_{fs}	5	9	—	S
Zero Gate Voltage Drain Current $V_{DS} = -60\text{ V}$, $V_{GS} = 0\text{ V}$ $T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$ $T_J = 150^\circ\text{C}$	I_{DSS}	— — —	-0.015 -1 -3	-1.0 — -15	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse $V_{GS} = -10\text{ V}$ $V_{GS} = 10\text{ V}$	I_{GSS}	— —	— —	-100 100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge $V_{GS} = -5.0\text{ V}$ $V_{DS} = -30\text{ V}$ $I_D = -22\text{ A}$	Q_g Q_{gs} Q_{gd}	— — —	7 3.5 3.5	15 9 9	nC
Turn on Delay Time Rise Time Turn off Delay Time Fall Time $V_{DD} = -30\text{ V}$ $V_{GS} = -5.0\text{ V}$ $I_D = -22\text{ A}$ $R_G = 2.5\text{ }\Omega$	$t_{(on)}$ t_r $t_{d(off)}$ t_f	— — — —	48 48 40 20	95 95 90 40	nsec
Input Capacitance Output Capacitance Reverse Transfer Capacitance $V_{GS} = 0\text{ V}$ $V_{DS} = -25\text{ V}$ $f = 1\text{ MHz}$	C_{iss} C_{oss} C_{rss}	— — —	1140 140 80	— — —	pF
Gate Resistance $f = 1\text{ MHz}$, open drain	R_G	—	7	—	Ω
Continuous Source Current (Body Diode)^{4/}	I_S	—	—	-22	A
Pulsed Source Current (Body Diode)^{5/}	I_{SM}	—	—	-30	A
Diode Forward Voltage $I_S = \text{Rated } I_D$ $V_{GS} = 0\text{ V}$ $T_J = 25^\circ\text{C}$	V_{SD}	—	-1	-1.5	V
Diode Reverse Recovery Time Reverse Recovery Charge $T_J = 25^\circ\text{C}$, $I_F = -9.9\text{ A}$, $V_{DD} \leq -50\text{ V}$, $di/dt = -100\text{ A}/\mu\text{sec}^*$	t_{rr} Q_{rr}	— —	60 170	75 —	nsec nC
Forward Turn-On Time	t_{on}	Intrinsic turn-on is negligible (turn-on dominated by $L_S + L_D$)			

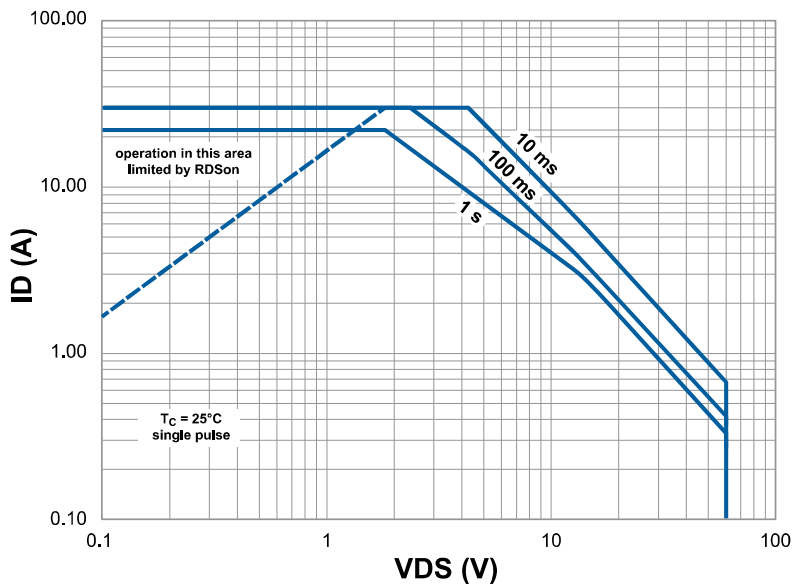
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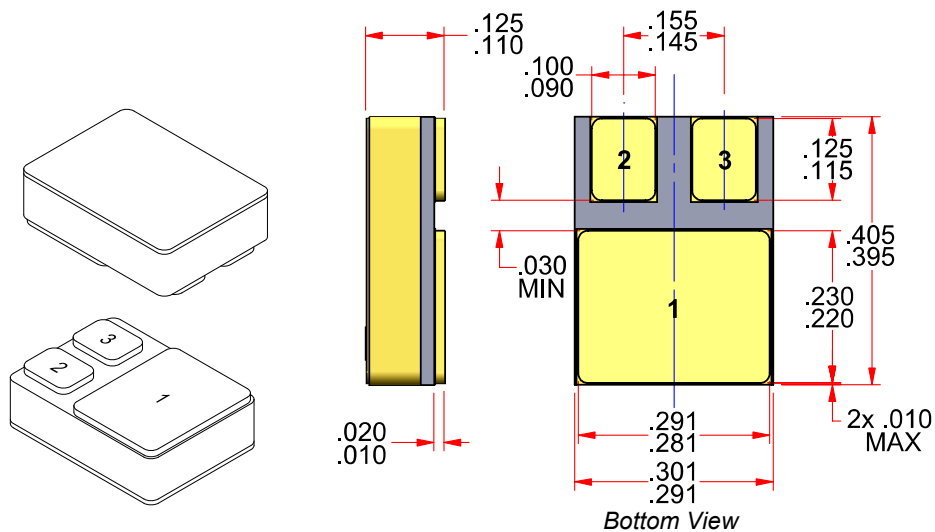
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SFL22P06S.5

SFL22P06S.5 SAFE OPERATING AREA



PACKAGE OUTLINE: SMD.5 (S.5)



Available Part Numbers:

SFL22P06S.5

PIN ASSIGNMENT (Standard)

Package	Drain	Source	Gate
SMD.5 (S.5)	Pin 1	Pin 2	Pin 3

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