



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638

Phone: (562) 404-4470 * Fax: (562) 404-1773

ssdi@ssdi-power.com * www.ssdi-power.com

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SFL11P06

Screening ^{2/}

— = Not Screened

TX = TX Level

TXV = TXV Level

S = S Level

Package

S.22= SMD.22

SFL11P06S.22

-11 AMP

Rad Tolerant

P-Channel Logic Level

POWER MOSFET

-60 Volts, 0.085 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

Maximum Ratings ^{3/}	Symbol	Value	Unit
Drain – Source Voltage	V_{DS}	-60	V
Gate – Source Voltage	V_{GS}	± 20	V
Continuous Drain Current (internal construction limited) $V_{GS} = -10$ V	I_{D1} I_{D2}	-11 -8.45	A
Pulsed Drain Current	I_{DM}	-15	A
Power Dissipation	P_D	10.4	W
Linear Derating Factor		83.2	mW/°C
Avalanche Current, Single Pulse	I_{AS}	-20	A
Repetitive Avalanche Energy, Single Pulse ^{4/}	E_{AS}	75 (typ 120)	mJ
Operating & Storage Temperature	T_{OP} & T_{STG}	-55 to +150	°C
Thermal Resistance	$R_{\theta JC}$	12	°C/W

NOTES:

*Pulsed per MIL-STD-750.

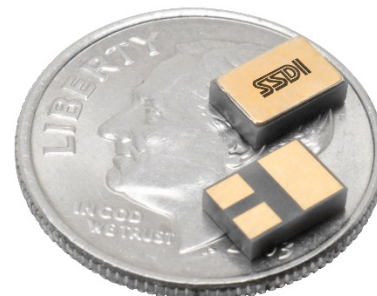
^{1/} For ordering information, price, and availability - contact factory.

^{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 mH

SMD.22



*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.

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DOCX



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SFL11P06S.22

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	-67	—	V
Temperature Coefficient of Breakdown Voltage Reference to 25°C, $I_D = -1.0\text{ mA}$	$\frac{\Delta BV_{DSS}}{\Delta T_J}$	—	-.06	—	V/°C
Drain to Source On State Resistance* $V_{GS} = -5\text{ V}$, $I_D = -20\text{ A}$ $V_{GS} = -10\text{ V}$, $I_D = -10\text{ A}$ $V_{GS} = -10\text{ V}$, $I_D = -10\text{ A}$, $T_J = 150^\circ\text{C}$	$R_{DS(on)}$	— — —	.095 .070 .100	.120 .085 —	Ω
Gate Threshold Voltage $V_{DS} = V_{GS}$, $I_D = -250\text{ }\mu\text{A}$	$V_{GS(th)}$	-1.0	-2.1	-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/°C
Forward Transconductance $V_{DS} = -15\text{ V}$, $I_D = -10\text{ A}^*$	g_{fs}	5	8	—	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}	— — —	-.035 -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}	— —	-10 -10	-100 100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge $V_{GS} = -5.0\text{ V}$ $V_{DS} = -30\text{ V}$ $I_D = -20\text{ A}$	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 $V_{DD} = -30\text{ V}$ $V_{GS} = -5.0\text{ V}$ $I_D = -20\text{ A}$ $R_G = 2.5\text{ }\Omega$	$t_{(on)}$ 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	—	—	-20	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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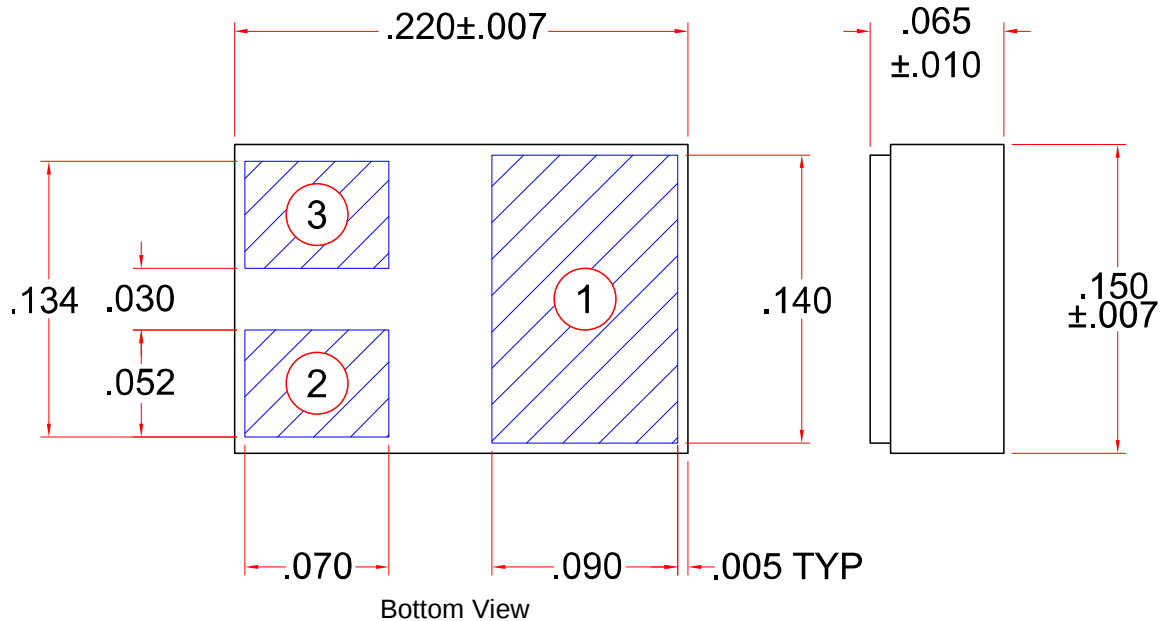


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SFL11P06S.22

PACKAGE OUTLINE: SMD.22 (S.22)



Available Part Numbers:

SFL11P06S.22

PIN ASSIGNMENT (Standard)

Package	Drain	Source	Gate
SMD.22 (S.22)	Pin 1	Pin 2	Pin 3

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