

**SFF230**

14849 Firestone Boulevard · La Mirada, CA 90638  
 Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

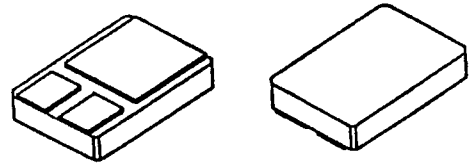
**Designer's Data Sheet**

**FEATURES:**

- Rugged construction with poly silicon gate
- Low RDS(on) and high transconductance
- Excellent high temperature stability
- Very fast switching speed
- Fast recovery and superior dv/dt performance
- Increased reverse energy capability
- Low input and transfer capacitance for easy paralleling
- Hermetically sealed surface mount package
- TX, TXV and Space Level screening available
- Replaces: IRF230 Types

**9 AMP  
 200 VOLTS  
 0.40Ω  
 N-CHANNEL  
 POWER MOSFET**

**MILPACK**



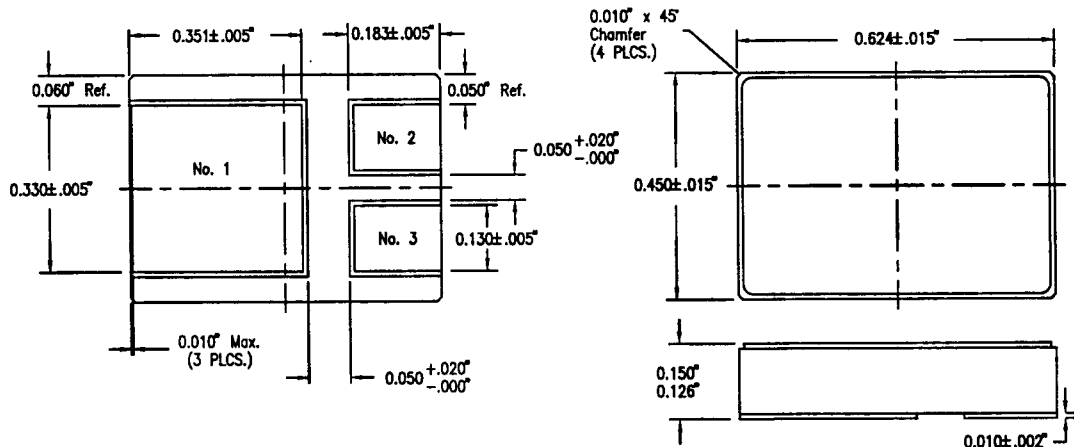
**MAXIMUM RATINGS**

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V <sub>DS</sub>	200	Volts
Gate to Source Voltage	V <sub>GS</sub>	±20	Volts
Continuous Drain Current	I <sub>D</sub>	9	Amps
Operating and Storage Temperature	Top & T <sub>stg</sub>	-55 to +150	°C
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	2.0	°C/W
Total Device Dissipation @ TC=25°C	P <sub>D</sub>	63	Watts
Total Device Dissipation @ TC=55°C		48	

**PACKAGE OUTLINE: MILPACK**

**PIN OUT:**

PIN 1: DRAIN  
 PIN 2: SOURCE  
 PIN 3: GATE



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

**DATA SHEET #: F0009 C**

**MED**

SFF230

SOLID STATE DEVICES, INC

14849 Firestone Boulevard · La Mirada, CA 90638  
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424**ELECTRICAL CHARACTERISTICS @  $T_J=25^\circ\text{C}$  (Unless Otherwise Specified)**

RATING	SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=250 $\mu$ A)	BV <sub>DSS</sub>	200	---	---	V
Drain to Source on State Resistance (VGS=10 V, ID= 5 A)	R <sub>DS(on)</sub>	---	0.25	0.4	$\Omega$
On State Drain Current (VDS > ID(on) X R <sub>DS(on)</sub> Max, VGS=10 V)	ID(on)	9	---	---	A
Gate Threshold Voltage (VDS=VGS, ID=250 $\mu$ A)	VGS(th)	2	---	4	V
Forward Transconductance (VDS > ID(on) X R <sub>DS(on)</sub> Max, IDS= 5 A)	gfs	3.0	6	---	S(V)
Zero Gate Voltage Drain Current (VDS=max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125°C)	IDSS	---	---	250 1000	$\mu$ A
Gate to Source Leakage Forward Gate to Source Leakage Reverse	At rated VGS IGSS	---	---	100 -100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	VGS=10 Volts 80% rated VDS ID= 12 A Qg Qgs Qgd	---	30 10 9	39 ---	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD=50% rated VDS 50% rated ID RG= 15 $\Omega$ td(on) tr td(off) tf	---	---	30 50 50 40	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, TJ=25°C)	VSD	---	---	2.0	V
Diode Reverse Recovery Time Reverse Recovery Charge	TJ=150°C IF=rated ID di/dt=100 A/ $\mu$ sec trr QRR	---	450 3.0	---	nsec $\mu$ C
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=0 Volts VDS=25 Volts f= 1 MHz Ciss Coss Crss	---	600 250 80	800 450 150	pF

SAFE OPERATING AREA (S.O.A.)  
TC = 25 C, D.C. CONDITION