

SFFC50

14849 Firestone Boulevard · La Mirada, CA 90638
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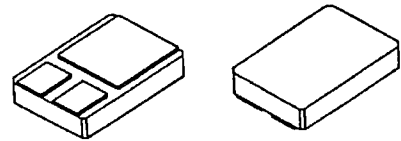
Designer's Data Sheet

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
- Low inductance package
- TX, TXV and Space Level screening available

**11 AMP
 600 VOLTS
 0.6 Ω
 N-CHANNEL
 POWER MOSFET**

MILPACK

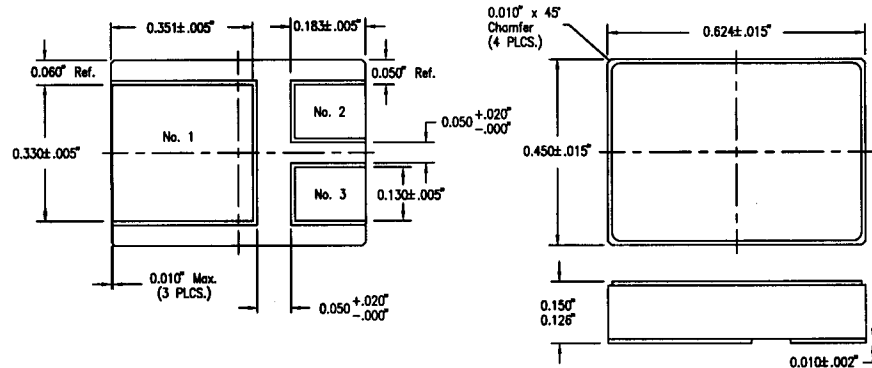


MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	600	Volts
Gate to Source Voltage	V _{GS}	±20	Volts
Continuous Drain Current @TC=25°C @TC=100°C	I _D	11 7	Amps
Operating and Storage Temperature	T _{op} & T _{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	1.25	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	P _D	100 76	Watts
Single Pulse Avalanche Energy	E _{AS}	920	mJ
Repetitive Avalanche Energy	E _{AR}	18	mJ

PACKAGE OUTLINE: MILPACK

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



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ELECTRICAL CHARACTERISTICS @ T_J=25°C (Unless Otherwise Specified)

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (V _{GS} =0 V, I _D =250μA)		BV _{DSS}	600	---	---	V
Temperature Coefficient of Breakdown Voltage		$\frac{\Delta BV_{DSS}}{\Delta T_j}$	---	780	---	mV/°C
Drain to Source on State Resistance (V _{GS} =10 V)	I _D =6 A I _D =11 A	R _{DS(on)}		0.5 0.5	0.60 0.65	Ω
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D =250μA)		V _{GS(th)}	2		4	V
Forward Transconductance (V _{DS} =V _{GS} , I _{DS} =6 A)		g _{fs}	5.7	13	--	S(Ω)
Zero Gate Voltage Drain Current (V _{DS} =80% rated voltage, V _{GS} =0 V) (V _{DS} =80% rated V _{DS} , V _{GS} =0 V, T _A =125°C)		I _{DSS}	---	---	100 500	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse	At rated V _{GS}	I _{GSS}	---	---	100 -100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	V _{GS} =10 Volts V _{DS} =360 V Rated I _D	Q _g Q _{gs} Q _{gd}	---	100 11 56	140 20 69	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} =50% rated V _{DS} rated I _D R _G =6.2Ω	t _{d(on)} t _r t _{d(off)} t _f	---	21 10 65 18	30 20 100 25	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25°C)		V _{SD}	---	---	1.4	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25°C I _F =rated I _D di/dt=100 A/μsec	t _{rr} Q _{RR}	---	450 3.9	830 ---	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	V _{GS} =0 Volts V _{DS} =25 Volts f= 1 MHz	C _{iss} C _{oss} C _{rss}	---	2500 350 55	---	pF