PRELIMINARY

SOLID STATE DEVICES, INC

SFFC50

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

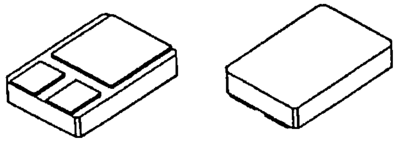
Designer's Data Sheet

11 AMP
600 VOLTS
0.6 Ω
N-CHANNEL
POWER MOSFET

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

MILPACK

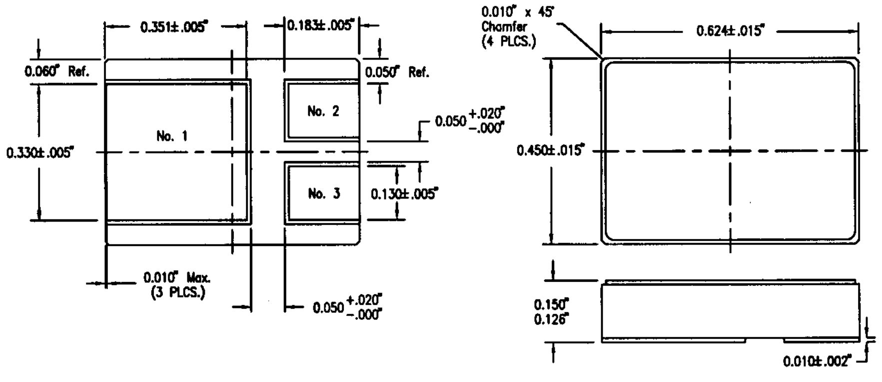


MAXIMUM RATINGS

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	Top & Tstg	-55 to +150	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	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



NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.	DATA SHEET #: F00297 A	MED

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ELECTRICAL CHARACTERISTICS @ TJ=25˚C (Unless Otherwise Specified)

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=250uA)		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 (VGS=10 V)	ID=6 A ID=11 A	$R_{DS(on)}$		0.5 0.5	0.60 0.65	Ω
Gate Threshold Voltage (VDS=VGS, ID=250μA)		$V_{GS(th)}$	2		4	V
Forward Transconductance (VDS=VGS, IDS=6 A)		g_{fs}	5.7	13	--	S(℧)
Zero Gate Voltage Drain Current (VDS=80% rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125˚C)		I_{DSS}	--- ---	--- ---	100 500	μA
Gate to Source Leakage Forward **Gate to Source Leakage Reverse**	At rated VGS	I_{GSS}	--- ---	--- ---	100 -100	nA
Total Gate Charge **Gate to Source Charge** **Gate to Drain Charge**	VGS=10 Volts VDS=360 V Rated ID	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**	VDD=50% rated VDS rated ID RG=6.2Ω	$t_{d(on)}$ t_r $t_{d(off)}$ t_f	--- --- --- ---	21 10 65 18	30 20 100 25	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, TJ=25˚C)		V_{SD}	---	---	1.4	V
Diode Reverse Recovery Time **Reverse Recovery Charge**	TJ=25˚C IF=rated ID di/dt=100 A/μsec	t_{rr} Q_{RR}	--- ---	450 3.9	830 ---	nsec μC
Input Capacitance **Output Capacitance** **Reverse Transfer Capacitance**	VGS=0 Volts VDS=25 Volts f= 1 MHz	C_{iss} C_{oss} C_{rss}	--- --- ---	2500 350 55	--- --- ---	pF