



PRELIMINARY

SOLID STATE DEVICES, INC

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

SFF054

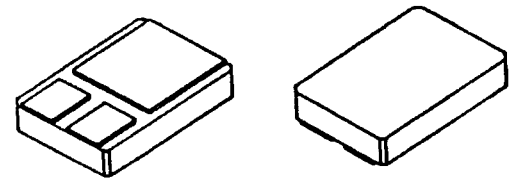
**45 AMP
 60 VOLTS
 0.020Ω
 N CHANNEL
 POWER MOSFET**

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 power surface mount package
- TX, TXV and Space Level screening available
- Replaces: IRF054 Types

MILPACK



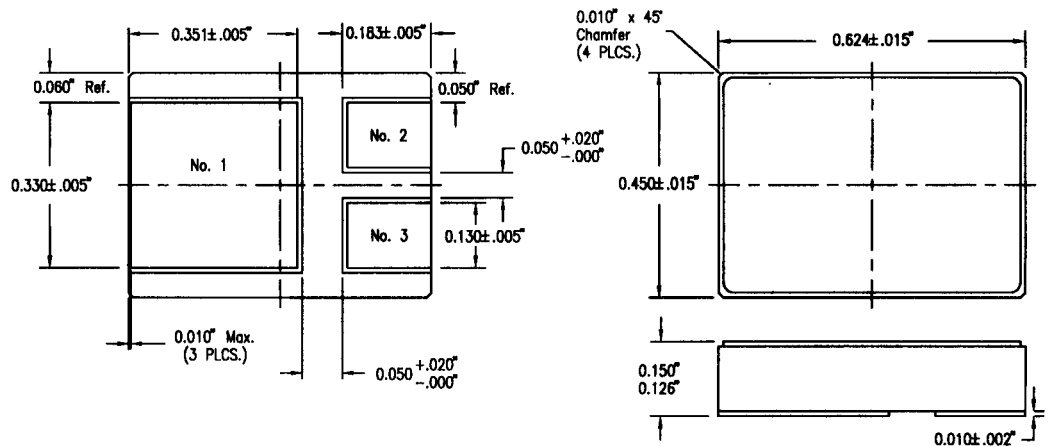
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	60	Volts
Gate to Source Voltage	V _{GS}	±20	Volts
Continuous Drain Current	I _D	45	Amps
Operating and Storage Temperature	T _{OP} & T _{STG}	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	0.83	°C/W
Total Device Dissipation @ TC=25°C	P _D	150	Watts
Total Device Dissipation @ TC=55°C		114	

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 #: F00057 C

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SFF054

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**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° C (Unless Otherwise Specified)**

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=1mA)		BVDSS	60	---	---	V
Drain to Source on State Resistance (VGS=10 V,	@31A @45A	RDS(on)	---	0.014	0.020 0.022	Ω
On State Drain Current (VDS > ID(on) X RDS(on) Max, VGS=10 V)		ID(on)	45	---	---	A
Gate Threshold Voltage (VDS=VGS, ID=250μA)		VGS(th)	2.0	2.6	4.0	V
Forward Transconductance (VDS > ID(on) X RDS(on) Max, IDS=35A)		gfs	20	45	---	S(Ω)
Zero Gate Voltage Drain Current (VDS= 80%max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125° C)		IDSS	---	---	25 250	μA
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 Rated ID	Qg Qgs Qgd	80 10 34	---	180 45 105	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD=50% rated VDS ID=45A RG≤6.2Ω	td(on) tr td(off) tf	---	30 20 60 30	33 180 100 100	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, T _J =25° C)		VSD	---	1.1	2.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25° C IF=10A di/dt=100 A/ sec	trr QRR	---	---	280 2.2	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=0 Volts VDS=25 Volts f= 1 MHz	Ciss Coss Crss	---	4600 2000 340	---	pF

For thermal derating curves and other characteristic curves please contact SSDI Marketing Department.