



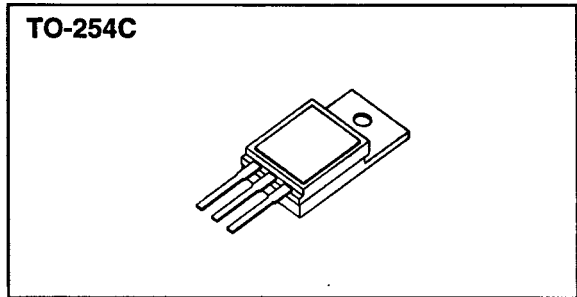
**SOLID STATE DEVICES, INC**

PRELIMINARY

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

**SFF250C**

**30 AMP  
 200 VOLTS  
 0.085 Ω  
 N-CHANNEL  
 POWER MOSFET**

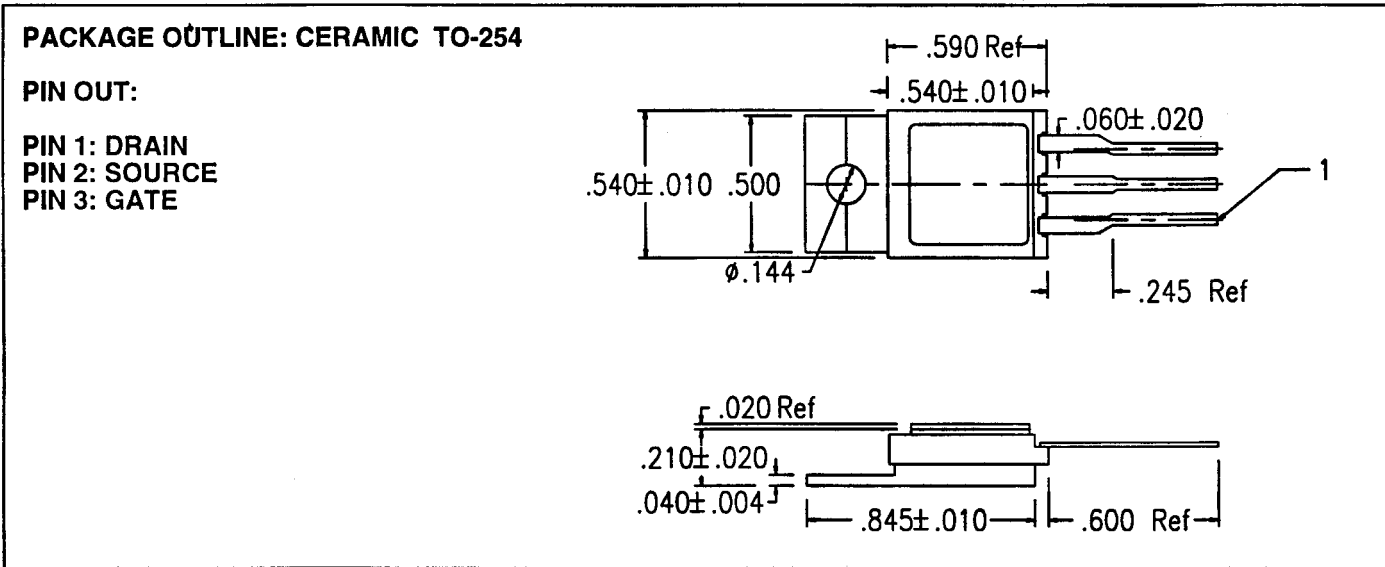


**Designer's Data Sheet**

- 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 package
  - TX, TXV and Space Level screening available
  - Replaces: IRF250 Types

**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>	30	Amps
Operating and Storage Temperature	T <sub>OP</sub> & T <sub>STG</sub>	-55 to +150	°C
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	1	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	P <sub>D</sub>	125 95	Watts



NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.	<b>DATA SHEET #: F00053 B</b>	<b>MED</b>
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**ELECTRICAL CHARACTERISTICS @ T<sub>J</sub>=25° C (Unless Otherwise Specified)**

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=250μA)		BV <sub>DSS</sub>	200	---	---	V
Drain to Source on State Resistance (VGS=10 V, ID=60% Rated ID)		R <sub>DS(on)</sub>	---	0.08	0.085	Ω
On State Drain Current (VDS > ID(on) X RDS(on) Max, VGS=10 V)		ID(on)	30	---	---	A
Gate Threshold Voltage (VDS=VGS, ID=250μA)		VGS(th)	2	3	4	V
Forward Transconductance (VDS > ID(on) X RDS(on) Max, IDS=60% rated ID)		g <sub>fs</sub>	13	15	---	S(Ω)
Zero Gate Voltage Drain Current (VDS=80% rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125° C)		IDSS	---	---	250 1000	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 50% rated VDS Rated ID	Qg Qgs Qgd	---	80 12 44	120 20 65	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD=50% rated VDS 50% rated ID RG= 6.2 Ω	td(on) tr td(off) tf	---	20 120 70 80	30 180 100 120	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, T <sub>J</sub> =25° C)		VSD	---	1.1	2.0	V
Diode Reverse Recovery Time Reverse Recovery Charge	T <sub>J</sub> =25° C IF=10A di/dt=100 A/μsec	t <sub>rr</sub> Q <sub>RR</sub>	140 1.8	300 3.8	630 8	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=0 Volts VDS=25 Volts f= 1 MHz	C <sub>iss</sub> C <sub>oss</sub> C <sub>rss</sub>	---	2600 650 150	---	pF

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