



PRELIMINARY

SOLID STATE DEVICES, INC

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

## Designer's Data Sheet

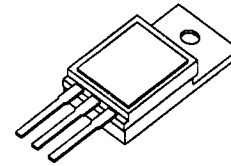
### FEATURES:

- 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 ceramic package
- Low inductance leads
- TX, TXV and Space Level screening available
- Replaces: IRF340 Types

# SFF340C

**10 AMP  
 400 VOLTS  
 0.55Ω  
 N-CHANNEL  
 POWER MOSFET**

TO-254C



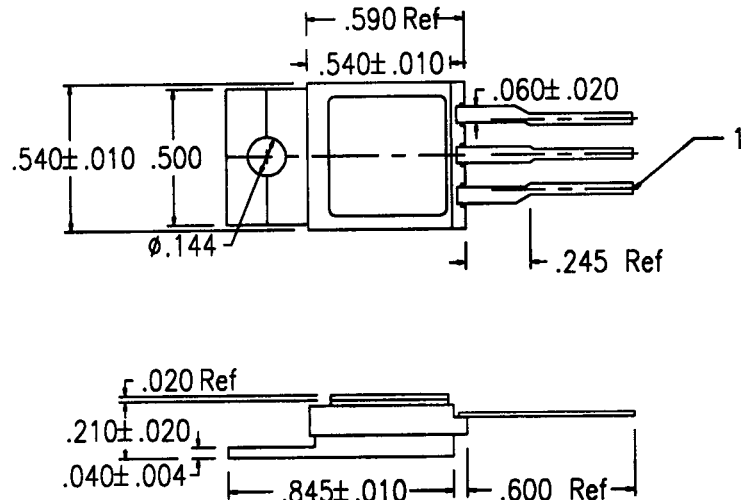
### MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V <sub>DS</sub>	400	Volts
Gate to Source Voltage	V <sub>GS</sub>	±20	Volts
Continuous Drain Current	I <sub>D</sub>	10	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>	1.7	°C/W
Total Device Dissipation @ TC=25°C	P <sub>d</sub>	76	Watts
Total Device Dissipation @ TC=55°C		55	

### PACKAGE OUTLINE: CERAMIC TO-254

#### 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 #: F00081 A

MED

**SFF340C**

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<b>ELECTRICAL CHARACTERISTICS @ T<sub>J</sub>=25 °C (Unless Otherwise Specified)</b>						
<b>RATING</b>		<b>SYMBOL</b>	<b>MIN</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
<b>Drain to Source Breakdown Voltage</b> (VGS=0 V, ID=250μA)		<b>BVDSS</b>	400	---	---	<b>V</b>
<b>Drain to Source on State Resistance</b> (VGS=10 V, ID=60% Rated ID)		<b>RDS(on)</b>	---	0.42	0.55	<b>Ω</b>
<b>On State Drain Current</b> (VDS > ID(on) X RDS(on) Max, VGS=10 V)		<b>ID(on)</b>	10	---	---	<b>A</b>
<b>Gate Threshold Voltage</b> (VDS=VGS, ID=250μA)		<b>VGS(th)</b>	2.0	---	4.0	<b>V</b>
<b>Forward Transconductance</b> (VDS ≥ 50V, IDS=60% rated ID)		<b>gfs</b>	5.8	8.7	---	<b>S(Ω)</b>
<b>Zero Gate Voltage Drain Current</b> (VDS=max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125°C)		<b>IDSS</b>	---	---	250 1000	<b>μA</b>
<b>Gate to Source Leakage Forward</b> <b>Gate to Source Leakage Reverse</b>	At rated VGS	<b>IGSS</b>	---	---	100 -100	<b>nA</b>
<b>Total Gate Charge</b> <b>Gate to Source Charge</b> <b>Gate to Drain Charge</b>	VGS=10 Volts 80% rated VDS ID=10A	<b>Qg</b> <b>Qgs</b> <b>Qgd</b>	---	43 6 22	65 9.3 33	<b>nC</b>
<b>Turn on Delay Time</b> <b>Rise Time</b> <b>Turn Off Delay Time</b> <b>Fall Time</b>	VDD=50% rated VDS ID=10A RG=9.1Ω RD=20Ω	<b>td(on)</b> <b>tr</b> <b>td(off)</b> <b>tf</b>	---	14 27 50 24	9 30 74 36	<b>nsec</b>
<b>Diode Forward Voltage</b> (IS=rated ID, VGS=0 V, T <sub>J</sub> =25°C)		<b>VSD</b>	---	---	2.0	<b>V</b>
<b>Diode Reverse Recovery Time</b> <b>Reverse Recovery Charge</b>	T <sub>J</sub> =25°C IF=rated ID di/dt=100 A/μsec	<b>trr</b> <b>QRR</b>	170 1.6	370 3.8	790 8.2	<b>nsec</b> <b>μC</b>
<b>Input Capacitance</b> <b>Output Capacitance</b> <b>Reverse Transfer Capacitance</b>	VGS=0 Volts VDS=25 Volts f= 1 MHz	<b>Ciss</b> <b>Coss</b> <b>Crss</b>	---	1300 210 37	---	<b>pF</b>

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