



PRELIMINARY

SOLID STATE DEVICES, INC

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

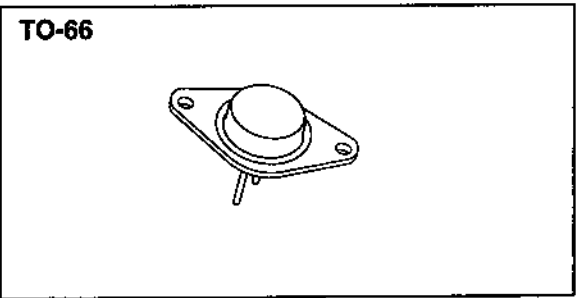
**SFF340/66**

**Designer's Data Sheet**

**10 AMP  
 400 VOLTS  
 0.55Ω  
 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 package
- TX, TXV and Space Level screening available
- Replaces: IRF340 Types



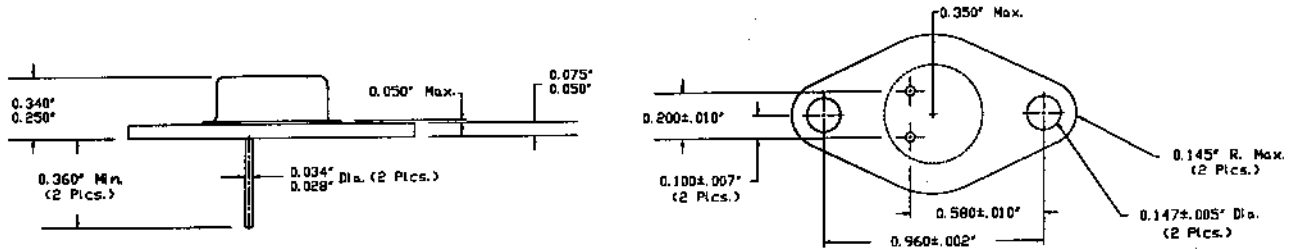
**MAXIMUM RATINGS**

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>	8.5	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>	2	°C/W
Total Device Dissipation @ TC=25°C	P <sub>d</sub>	63	Watts
Total Device Dissipation @ TC=55°C		48	

**PACKAGE OUTLINE: TO-66**

**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 #: F00317 A**

**SFF340/66**

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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>	400	---	---	V
Drain to Source on State Resistance (VGS=10 V, ID=60% Rated ID)	RDS(on)	---	0.42	0.55	Ω
On State Drain Current (VDS > ID(on) X RDS(on) Max, VGS=10 V)	ID(on)	10	---	---	A
Gate Threshold Voltage (VDS=VGS, ID=250µA)	VGS(th)	2.0	---	4.0	V
Forward Transconductance (VDS ≥ 50V, IDS=60% rated ID)	gfs	5.8	8.7	---	S(Ω)
Zero Gate Voltage Drain Current (VDS=max 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 80% rated VDS ID=10A Qg Qgs Qgd	---	43 6 22	65 9.3 33	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD=50% rated VDS ID=10A RG=9.1Ω RD=20Ω td(on) tr td(off) tf	---	14 27 50 24	30 30 74 36	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, T <sub>J</sub> =25°C)	VSD	---	---	2.0	V
Diode Reverse Recovery Time Reverse Recovery Charge	T <sub>J</sub> =25°C IF=rated ID di/dt=100 A/µsec trr QRR	170 1.6	370 3.8	790 8.2	nsec µC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=0 Volts VDS=25 Volts f= 1 MHz Ciss Coss Crss	---	1300 350 130	1600 450 190	pF

SAFE OPERATING AREA (S.O.A.)  
TC = 25 C, D.C. CONDITION

