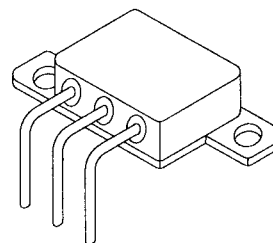




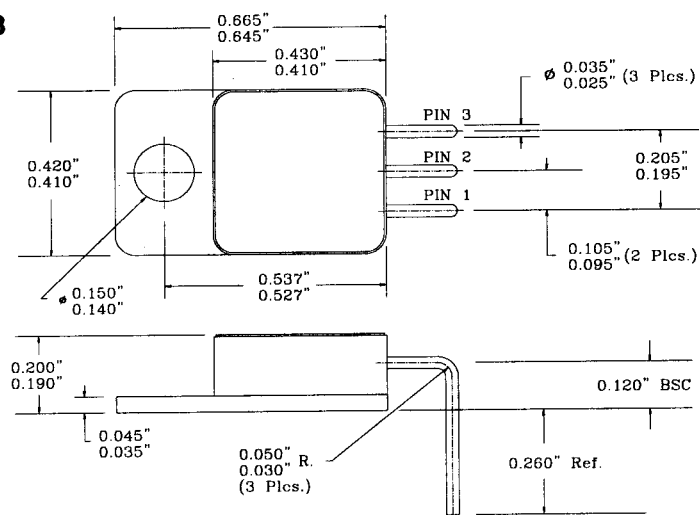
PRELIMINARY

SOLID STATE DEVICES, INC14849 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 package
- TX, TXV and Space Level screening available
- Replaces: IRF340 Types

SFF340JDB**10 AMP
400 VOLTS
0.58Ω
N-CHANNEL
POWER MOSFET****TO-257DB****MAXIMUM RATINGS**

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	400	Volts
Gate to Source Voltage	V _{GS}	±20	Volts
Continuous Drain Current	I _D	8.5	Amps
Operating and Storage Temperature	Top & Tstg	-55 to +150	°C
Thermal Resistance, Junction to Case	RθJC	2	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	P _D	63 48	Watts

PACKAGE OUTLINE: TO-257DB**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 #: F00351 A

SFF340JDB

PRELIMINARY



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ELECTRICAL CHARACTERISTICS @ $T_J=25^\circ\text{C}$ (Unless Otherwise Specified)

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage ($V_{GS}=0\text{ V}$, $I_D=250\mu\text{A}$)		BV_{DSS}	400	---	---	V
Drain to Source on State Resistance ($V_{GS}=10\text{ V}$, $I_D=60\%$ Rated ID)		$R_{DS(on)}$	---	0.42	0.58	Ω
On State Drain Current ($V_{DS} > I_D(on) \times R_{DS(on)}$ Max, $V_{GS}=10\text{ V}$)		$I_D(on)$	10	---	---	A
Gate Threshold Voltage ($V_{DS}=V_{GS}$, $I_D=250\mu\text{A}$)		$V_{GS(th)}$	2.0	---	4.0	V
Forward Transconductance ($V_{DS} \geq 50\text{ V}$, $I_{DS}=60\%$ rated ID)		g_{fs}	5.8	8.7	---	S(τ)
Zero Gate Voltage Drain Current ($V_{DS}=\text{max rated voltage}$, $V_{GS}=0\text{ V}$) ($V_{DS}=80\%$ rated VDS, $V_{GS}=0\text{ V}$, $T_A=125^\circ\text{C}$)		I_{DSS}	---	---	250 1000	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	$V_{GS}=10\text{ Volts}$ 80% rated VDS $I_D=10\text{ A}$	Q_g Q_{gs} Q_{gd}	---	43 6 22	65 9.3 33	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	$V_{DD}=50\%$ rated VDS $I_D=10\text{ A}$ $R_G=9.1\Omega$ $R_D=20\Omega$	$t_{d(on)}$ t_r $t_{d(off)}$ t_f	---	14 27 50 24	30 30 74 36	nsec
Diode Forward Voltage ($I_S=\text{rated ID}$, $V_{GS}=0\text{ V}$, $T_J=25^\circ\text{C}$)		V_{SD}	---	---	2.0	V
Diode Reverse Recovery Time Reverse Recovery Charge	$T_J=25^\circ\text{C}$ $I_F=\text{rated ID}$ $di/dt=100\text{ A}/\mu\text{sec}$	t_{rr} Q_{RR}	170 1.6	370 3.8	790 8.2	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	$V_{GS}=0\text{ Volts}$ $V_{DS}=25\text{ Volts}$ $f=1\text{ MHz}$	C_{iss} C_{oss} C_{rss}	---	1300 210 37	---	pF

SAFE OPERATING AREA (S.O.A.)
 $T_C = 25^\circ\text{C}$, D.C. CONDITION