Solid State Devices, Inc.
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Phone: (562) 404-7855 * Fax: (562) 404-1773
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SFF140J
SFF140JBW

DESIGNER'S DATA SHEET

Part Number / Ordering Information [1/]

SFF140 J __ __

+ **Screening** [2/] __ = Not Screen
TX = TX Level
TXV = TXV Level
S = S Level

+ **Lead Option** [3/] __ = Cooper Core Alloy Leads
BW = Welded Copper Leads

+ **Package: TO-257**

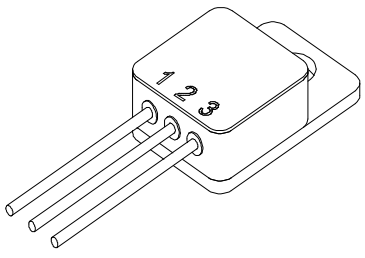
28 AMP / 100 Volts
0.077 Ω
N-Channel
POWER MOSFET

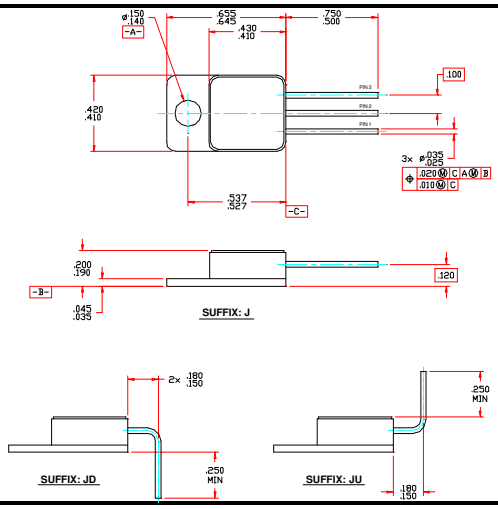
Features:

- Rugged Construction with Polysilicon Gate Cell
- Low $R_{DS(ON)}$ 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
- Ceramic Seals for Improved Hermeticity
- Hermetically Sealed Surface Mount Power Package
- TX, TXV, Space Level Screening Available
- Replacement for IRF140/540 Types
- Available with enhanced flexibility Cu pins: SFF140JBW

Maximum Ratings		Symbol	Value	Units
Drain – Source Voltage		V_{DS}	100	**Volts**
Gate – Source Voltage		V_{GS}	±20	**Volts**
Continuous Collector Current		I_D	28	**Amps**
Power Dissipation	T_C = 25ºC T_C = 55ºC	P_D	62.5 47.5	**W**
Operating & Storage Temperature		**Top & Tstg**	-55 to +150	**ºC**
Maximum Thermal Resistance Junction to Case		$R_{\theta JC}$	2	**ºC/W**

TO-257
Pin Out:
Pin1: Drain
Pin2: Source
Pin3: 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 #: F00029C | **DOC**

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Electrical Characteristics @ T_J = 25ºC (Unless Otherwise Specified)		Symbol	Min	Typ	Max	Units
Drain to Source Breakdown Voltage (VGS=0 V, ID=250 μA)		BV_{DSS}	100	—	—	**Volts**
Drain to Source On State Resistance (VGS=10 V, ID=50% Rated ID)		$R_{DS(on)1}$	—	0.067	0.077	Ω
On State Drain Current (VDS>ID(on) X RDS(on) Max, VGS=10V, ID= rated ID)		$R_{AS(on)2}$		—	0.125	**A**
Gate Threshold Voltage (VDS=VGS, ID= 250μA)		$V_{GS(th)}$	2.0	2.4	4.0	**V**
Forward Transconductance (VDS>ID(on) X RDS(on) Max, IDS= 60% Rated ID)		g_{fs}	8.7	13	—	**S(mho)**
Zero Gate Voltage Drain Current (VDS=max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=150ºC)		I_{DSS}	— —	— —	25 250	**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**	VGS=10 Volts 60% rated VDS 60% Rated ID	Q_g Q_{gs} Q_{gd}	— — —	40 8 19	75 12 35	**nC**
Turn on Delay Time **Rise Time** **Turn on Delay Time** **Fall Time**	VDD=50% Rated VDS 60% Rated ID RG= 6.2Ω VGS=10 Volts	$t_{d(on)}$ **tr** $t_{d(off)}$ t_f	— — — —	15 72 40 50	23 110 60 75	**nsec**
Diode Forward Voltage (IS= Rated ID, VGS=0 V, TJ=25ºC)		V_{SD}	—	1.3	2.5	**V**
Diode Reverse Recovery Time **Reverse Recovery Charge**	T_J=25ºC IF=10A Di/dt=100A/μsec	t_{rr} Q_{RR}	— 0.44	150 0.91	400 1.9	**nsec** **nC**
Input Capacitance **Input Capacitance** **Reverse Transfer Capacitance**	VGS=0 Volts VDS=25 Volts f=1 MHz	C_{iss} C_{oss} C_{rss}	— — —	1750 575 125	— — —	**pF**

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