



Solid State Devices, Inc.

14830 Valley View Blvd * La Mirada, Ca 90638

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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

SFF140J SFF140JBW

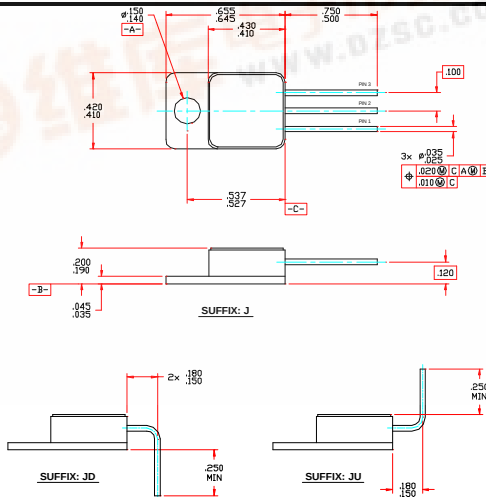
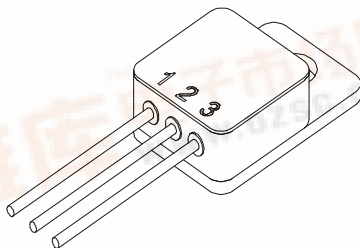
28 AMP / 100 Volts 0.077 W N-Channel POWER MOSFET

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	$T_C = 25^\circ C$ $T_C = 55^\circ C$	P_D	62.5 47.5	W
Operating & Storage Temperature		Top & Tstg	-55 to +150	$^\circ C$
Maximum Thermal Resistance Junction to Case		R_{qJC}	2	$^\circ C/W$

TO-257
Pin Out:
Pin1: Drain
Pin2: Source
Pin3: Gate



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**SFF140J
SFF140JBW**

Electrical Characteristics @ T _J = 25°C (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	W
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=150°C)		I _{DSS}	— —	— —	25 250	mA
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	td(on) tr td(off) tf	— — — —	15 72 40 50	23 110 60 75	nsec
Diode Forward Voltage (IS= Rated ID, VGS=0 V, TJ=25°C)		V _{SD}	—	1.3	2.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25°C 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.

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

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