



Solid State Devices, Inc.

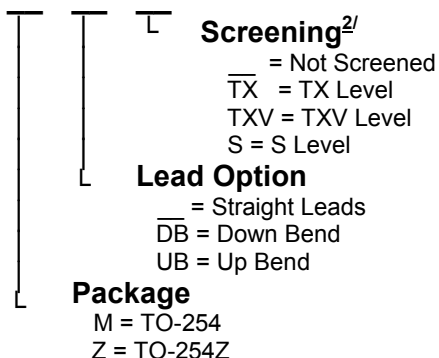
14701 Firestone Blvd * La Mirada, CA 90638
Phone: (562) 404-4470 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

SFF9130M SFF9130Z

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SFF9130



**-11 AMP
P-Channel POWER MOSFET
100 Volts
0.30 Ω typical**

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
- TX, TXV, and Space Level Screening Available
- Replaces IRF9130 Types

Maximum Ratings ^{3/}	Symbol	Value	Units
Drain – Source Voltage	V_{DS}	-100	V
Gate – Source Voltage	V_{GS}	± 20	V
Continuous Drain Current $T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$	I_D	-11 -7	A
Operating & Storage Temperature	$T_{OP} \text{ \& } T_{STG}$	-55 to +150	$^\circ\text{C}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2	$^\circ\text{C/W}$
Total Device Power Dissipation $T_C = 25^\circ\text{C}$ $T_C = -55^\circ\text{C}$	P_D	63 48	Watts
Single Pulse Avalanche Energy	E_{AS}	81	mJ
Repetitive Avalanche Energy	E_{AR}	7.5	mJ

NOTES:

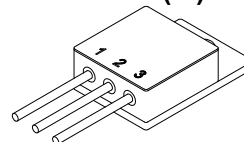
*Pulse Test: Pulse Width = 300 μ sec, Duty Cycle = 2%.

^{1/} For ordering information, price, and availability - contact factory.

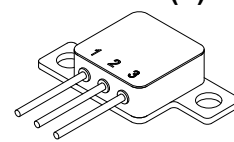
^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.

^{3/} Unless otherwise specified, all electrical characteristics @25 $^\circ\text{C}$.

TO-254 (M)



TO-254Z (Z)



NOTE: All specifications are subject to change without notification.
SCD's for these devices should be reviewed by SSDI prior to release.

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Electrical Characteristics ^{3/}		Symbol	Min	Typ	Max	Units
Drain to Source Breakdown Voltage (V _{GS} = 0V, I _D = 1mA)		BV _{DSS}	-100	—	—	V
Temperature Coefficient of Breakdown Voltage		$\frac{\Delta BV_{DSS}}{\Delta T_j}$	—	87	—	mV/°C
Drain to Source On State Resistance (V _{GS} = -10V)		I _D =7A I _D =11A R _{DS(on)}	— —	— —	0.30 0.35	Ω
Gate Threshold Voltage (V _{DS} = V _{GS} , I _D = -250μA)		V _{GS(th)}	-2.0	—	-4.0	V
Forward Transconductance (V _{DS} > I _{D(on)} × R _{DS(on)} Max, I _{DS} = 7A)		g _{fs}	3.0	5.0	—	S(Ω)
Zero Gate Voltage Drain Current (V _{DS} = 80% max rated voltage, V _{GS} = 0V) (V _{DS} = 80% rated V _{DS} , V _{GS} = 0V, T _A =125°C)		I _{DSS}	— —	— —	-25 250	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse	At Rated V _{GS}	I _{GSS}	— —	— —	-100 100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	V _{GS} = -10V 50% rated VDS I _D = -11A	Q _g Q _{gs} Q _{gd}	15 1 2	26 3 14	29 9.5 21	nC
Turn on Delay Time Rise Time Turn off Delay Time Fall Time	V _{DD} = 50% Rated VDS I _D = 11 A R _G = 7.5Ω	t _(on) t _r t _{d(off)} t _r	— — — —	15 10 30 12	60 140 140 140	nsec
Diode Forward Voltage	I _S = Rated I _D V _{GS} = 0V T _J = 25°C	V _{SD}	—	—	-4.7	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J = 25°C I _F = 10A di/dt = 100A/μsec	t _{rr} Q _{rr}	— —	125 —	250 3	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	V _{GS} = 0V V _{DS} = -25V f = 1 MHz	C _{iss} C _{oss} C _{rss}	— — —	860 350 125	— — —	pF

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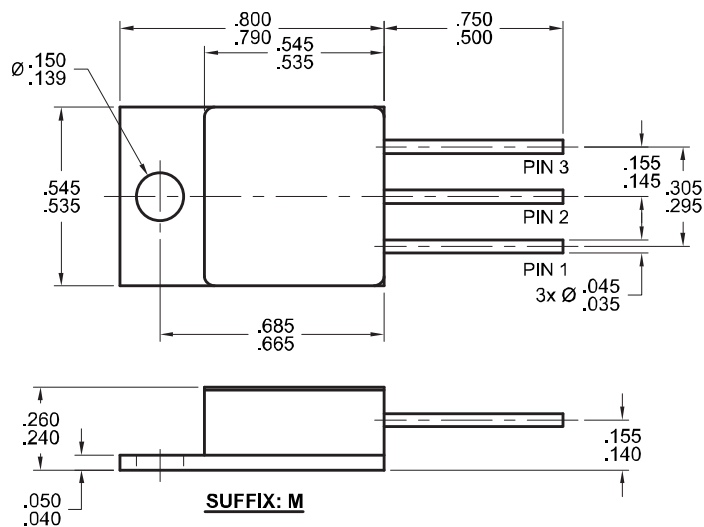
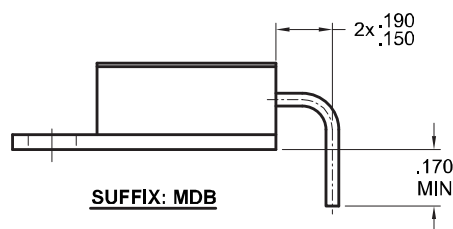
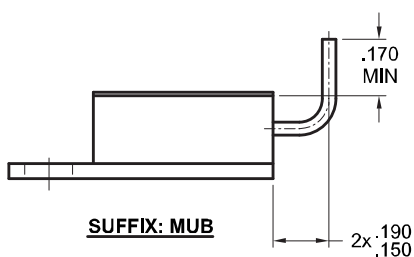


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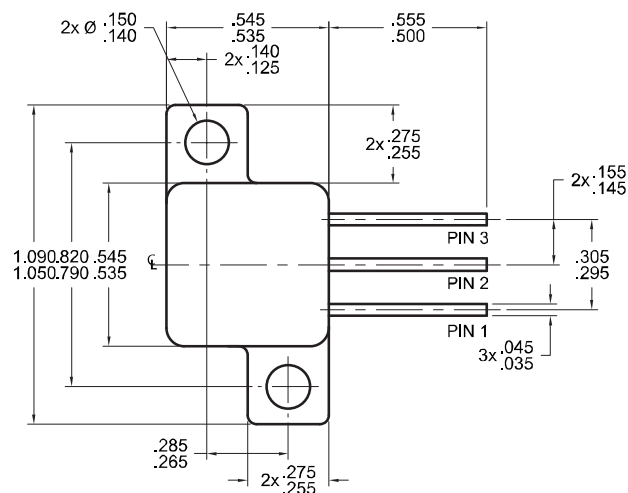
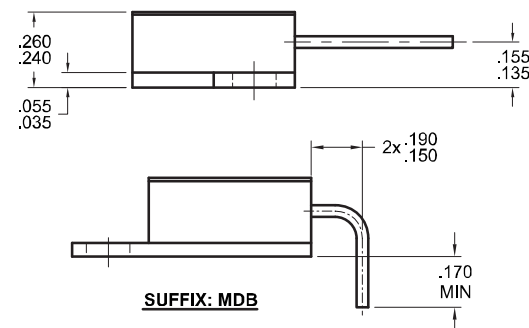
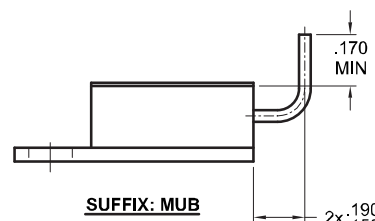
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SFF9130M SFF9130Z

PACKAGE OUTLINE: TO-254 (M)



PACKAGE OUTLINE: TO-254Z (Z)



Available with glass or ceramic seals – contact factory for details.

Available Part Numbers:

SFF9130M, SFF9130MUB, SFF9130MDB,
SFF9130Z, SFF9130ZUB, SFF9130ZDB

PIN ASSIGNMENT (Standard)

Package	Drain	Source	Gate
TO-254 (M)	Pin 1	Pin 2	Pin 3
TO-254Z (Z)	Pin 1	Pin 2	Pin 3

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