


SOLID STATE DEVICES, INC

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

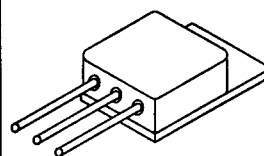
Designer's Data Sheet

FEATURES:

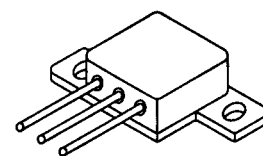
- Rugged construction with poly silicon gate
- Low RDS(on) and high transconductance
- Excellent high temperature stability
- Very fast switching speed
- Fast recovery and superior dv/dt performance
- Increased reverse energy capability
- Low input and transfer capacitance for easy paralleling
- Hermetically sealed power package
- TX, TXV and Space Level screening available
- Replaces: IRFM150 Types

**SFF150M
SFF150Z**
**30 AMP
100 VOLTS
0.055 Ω
N-CHANNEL
POWER MOSFET**

TO-254



TO-254Z



MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	100	Volts
Gate to Source Voltage	V _{GS}	± 20	Volts
Continuous Drain Current	I _D	30	Amps
Operating and Storage Temperature	Top & Tstg	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	1	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	P _D	125 95	Watts

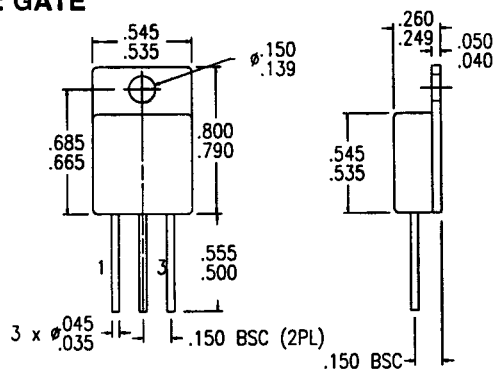
PACKAGE OUTLINE: TO-254

PIN OUT:

PIN 1: DRAIN

PIN 2: SOURCE

PIN 3: GATE



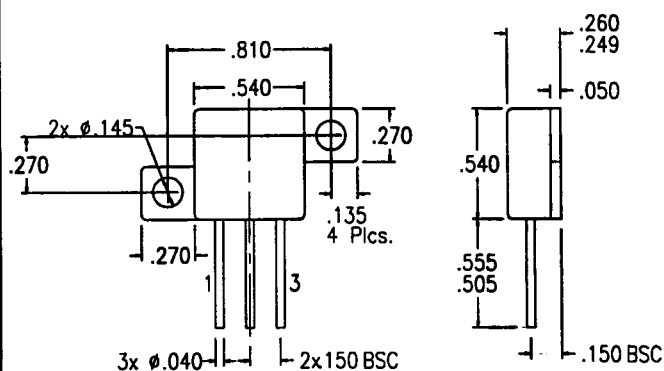
PACKAGE OUTLINE: TO-254Z

PIN OUT:

PIN 1: DRAIN

PIN 2: SOURCE

PIN 3: GATE



Available with Glass or Ceramic Seals. Contact Factory for details.

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

DATA SHEET #: F00041 C
MED

SFF150M
SFF150Z

PRELIMINARY



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ELECTRICAL CHARACTERISTICS @ T_J=25° C (Unless Otherwise Specified)

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (V _{GS} =0 V, I _D =250μA)		BV _{DSS}	100	---	---	V
Drain to Source on State Resistance (V _{GS} =10 V, I _D =20 A)		R _{DS(on)}	---	---	0.055	Ω
On State Drain Current (V _{DS} > I _{D(on)} X R _{DS(on)} Max, V _{GS} =10 V)		I _{D(on)}	30	---	---	A
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D =250μA)		V _{GS(th)}	2	---	4	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} =20 A)		g _{fs}	9	11	---	S(Ω)
Zero Gate Voltage Drain Current (V _{DS} =max rated voltage, V _{GS} =0 V) (V _{DS} =80% rated V _{DS} , V _{GS} =0 V, T _A =125° C)		I _{DSS}	---	---	250 1000	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} =10 Volts 80% rated V _{DS} Rated I _D	Q _g Q _{gs} Q _{gd}	---	63 15 60	120 25 75	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} = 24 V I _D = 20 A R _G = 6.2 Ω	t _{d(on)} t _r t _{d(off)} t _f	---	---	35 100 125 100	nsec
Diode Forward Voltage (I _S = 40 A, V _{GS} =0 V, T _J =25° C)		V _{SD}	---	---	2.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25° C I _F =40 A di/dt=100 A/μsec	t _{rr} Q _{RR}	---	600 3.3	---	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	V _{GS} =10 Volts V _{DS} =25 Volts f= 1 MHz	C _{iss} C _{oss} C _{rss}	---	2000 1000 350	3600 1500 500	pF

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