



PRELIMINARY

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:

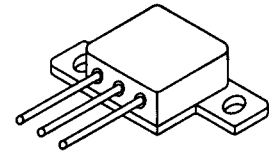
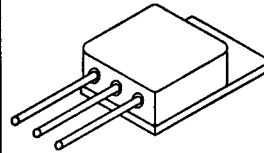
- Rugged construction with poly silicon gate
- Low RDS(on) and high transconductance
- Excellent high temperature stability
- Very fast switching speed
- Fast recovery and superior dv/dt performance
- Increased reverse energy capability
- Low input and transfer capacitance for easy paralleling
- Hermetically 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

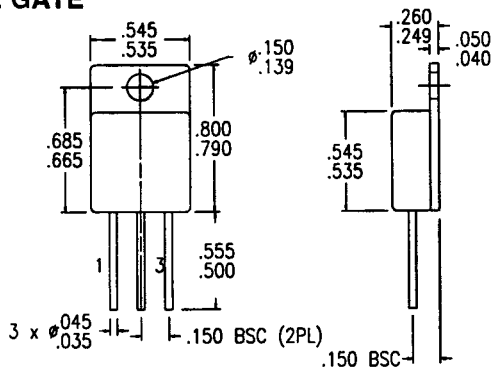


MAXIMUM RATINGS

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	P _D	125	Watts
Total Device Dissipation @ TC=55°C		95	

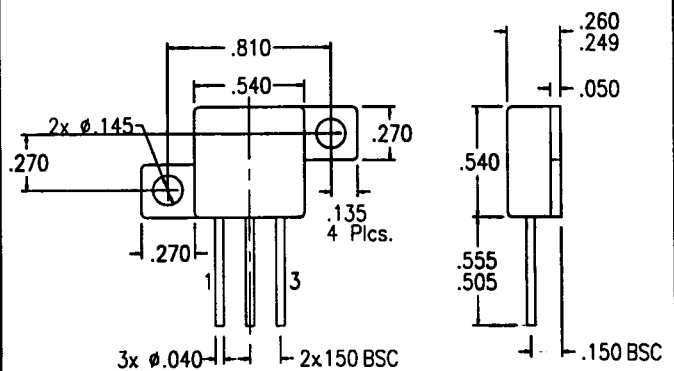
PACKAGE OUTLINE: TO-254

**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**

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

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=250μA)		BV _{DSS}	100	---	---	V
Drain to Source on State Resistance (VGS=10 V, ID=20 A)		R _{DS(on)}	---	---	0.055	Ω
On State Drain Current (VDS > ID(on) X RDS(on) Max, VGS=10 V)		ID(on)	30	---	---	A
Gate Threshold Voltage (VDS=VGS, ID=250μA)		VGS(th)	2	---	4	V
Forward Transconductance (VDS > ID(on) X RDS(on) Max, IDS=20 A)		g _{fs}	9	11	---	S(Ω)
Zero Gate Voltage Drain Current (VDS=max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125° C)		IDSS	---	---	250 1000	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse	At rated VGS	IGSS	---	---	100 100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	VGS=10 Volts 80% rated VDS Rated ID	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	VDD= 24 V ID= 20 A RG= 6.2 Ω	td(on) tr td(off) tf	---	---	35 100 125 100	nsec
Diode Forward Voltage (IS= 40 A, VGS=0 V, T _J =25° C)		VSD	---	---	2.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25° C IF=40 A di/dt=100 A/μsec	t _{rr} QRR	---	600 3.3	---	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=10 Volts VDS=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.