



PRELIMINARY

SOLID STATE DEVICES, INC

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

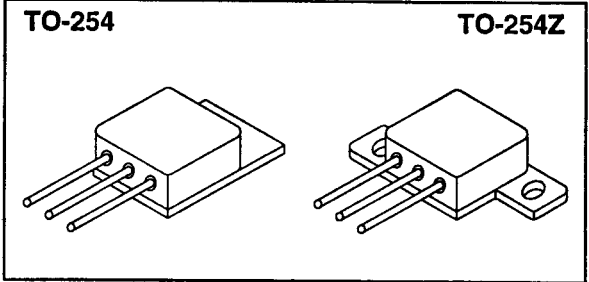
Designer's Data Sheet

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 package
- Ceramic seals for improved hermeticity
- TX, TXV and Space Level screening available
- Replaces: IRFM230 Types

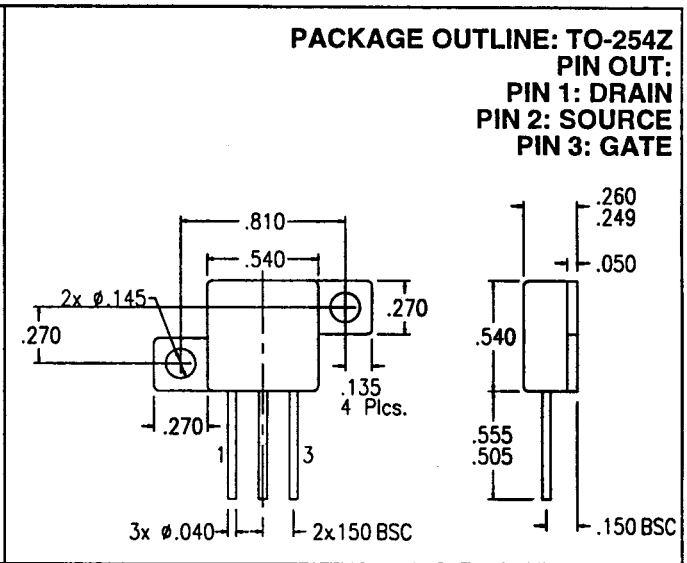
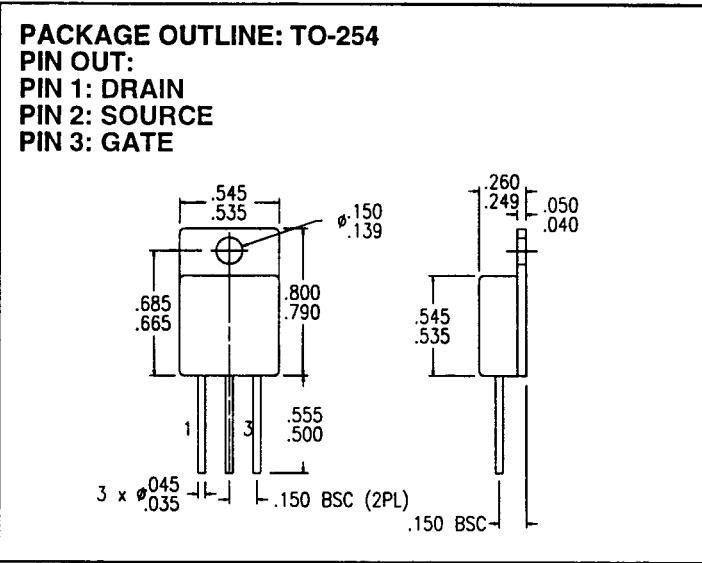
**SFF230M
SFF230Z**

**9 AMP
200 VOLTS
0.40Ω
N-CHANNEL
POWER MOSFET**



MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	200	Volts
Gate to Source Voltage	V _{GS}	±20	Volts
Continuous Drain Current	I _D	9	Amps
Operating and Storage Temperature	Top & Tstg	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	2	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	PD	63 48	Watts



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 #: F00015 C

MED

SFF230M SFF230Z

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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}	200	---	---	V
Drain to Source on State Resistance (V _{GS} =10 V, I _D = 5 A)	R _{DS(on)}	---	0.25	0.4	Ω
On State Drain Current (V _{DS} > I _{D(on)} X R _{DS(on)} Max, V _{GS} =10 V)	I _{D(on)}	9	---	---	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} = 5 A)	g _{fs}	3.0	6	---	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} I _D = 12 A Q _g Q _{gs} Q _{gd}	---	30 10 9	39 ---	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} =50% rated V _{DS} 50% rated I _D R _G = 15Ω t _{d(on)} t _r t _{d(off)} t _f	---	---	30 50 50 40	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25°C)	V _{SD}	---	---	2.0	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =150°C I _F =rated I _D di/dt=100 A/μsec t _{rr} Q _{RR}	---	450 3.0	---	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	V _{GS} =0 Volts V _{DS} =25 Volts f= 1 MHz C _{iss} C _{oss} C _{rss}	---	600 250 80	800 450 150	pF

SAFE OPERATING AREA (S.O.A.)
T_C = 25°C, D.C. CONDITION

