



SOLID STATE DEVICES, INC

PRELIMINARY

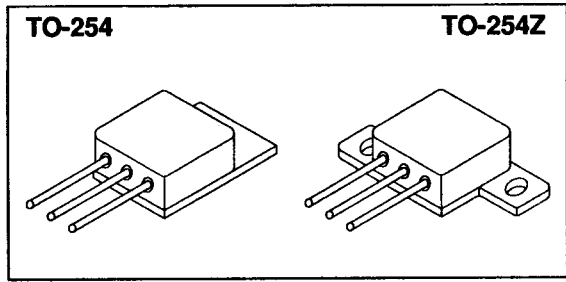
14849 Firestone Boulevard · La Mirada, CA 90638
 Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

SFF430M
SFF430Z

Designer's Data Sheet

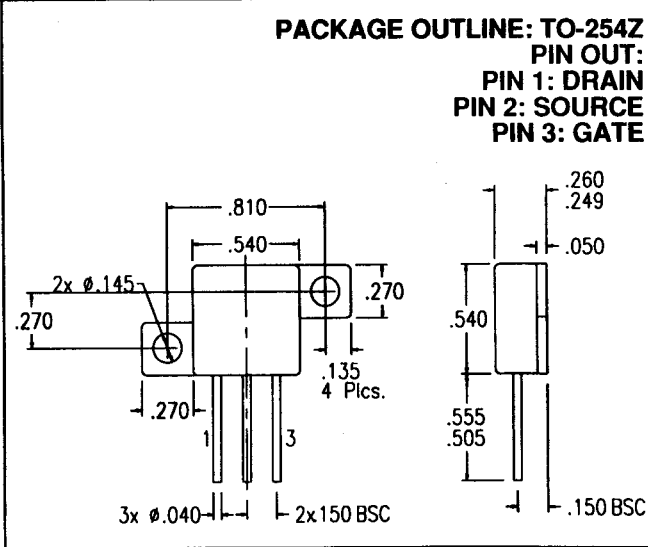
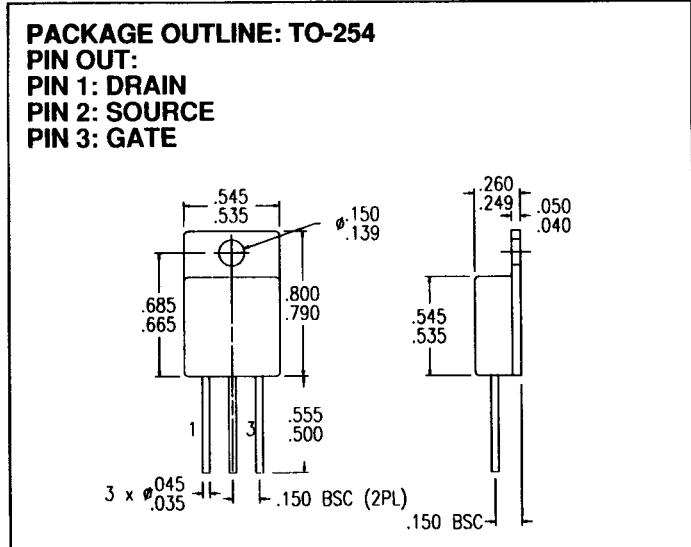
4.5 AMP
500 VOLTS
1.5 Ω
N-CHANNEL
POWER MOSFET

- FEATURES:**
- Rugged construction with polysilicon 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
 - Ceramic Seals for improved hermeticity
 - Hermetically sealed package
 - TX, TXV and Space Level screening available
 - Replaces: IRF430 Types



MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	500	Volts
Gate to Source Voltage	V _{GS}	± 20	Volts
Continuous Drain Current	I _D	4.5	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	P _D	63	Watts
Total Device Dissipation @ TC=55°C		48	



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 #: F00121 B	MED
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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)	BVDSS	500	---	---	V
Drain to Source on State Resistance (VGS=10 V, ID= 2.5 A)	RDS(on)	---	1.4	1.5	Ω
On State Drain Current (VDS > ID(on) X RDS(on) Max, VGS=10 V)	ID(on)	4.5	---	---	A
Gate Threshold Voltage (VDS=VGS, ID=250μA)	VGS(th)	2.0	---	4.0	V
Forward Transconductance (VDS ≥ 10 V, IDS= 2.5 A)	gfs	2.7	4.1	---	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 Qg Qgs Qgd	---	21 3.2 11	32 4.8 17	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD=50% rated VDS ID=4.5 A RG= 12 Ω RD= 56 Ω td(on) tr td(off) tf	---	11 15 35 15	17 23 53 23	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, T _J =25°C)	VSD	---	---	1.6	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25°C IF=rated ID di/dt=100 A/μsec trr QRR	180 0.96	370 2.0	760 4.3	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=0 Volts VDS=25 Volts f= 1 MHz Ciss Coss Crss	---	610 91 18	---	pF

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

