



PRELIMINARY

SOLID STATE DEVICES, INC

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

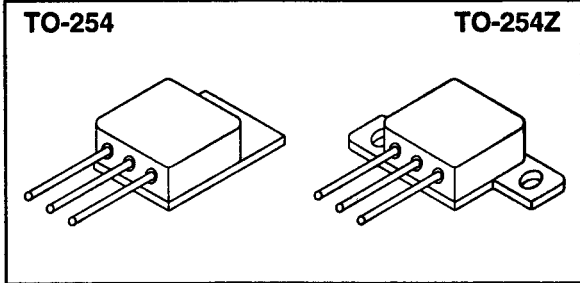
SFF10N100M
SFF10N100Z

Designer's Data Sheet

FEATURES:

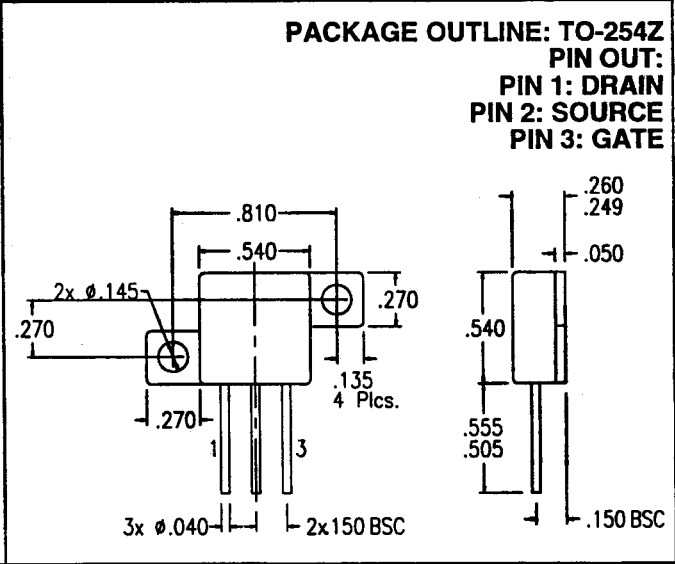
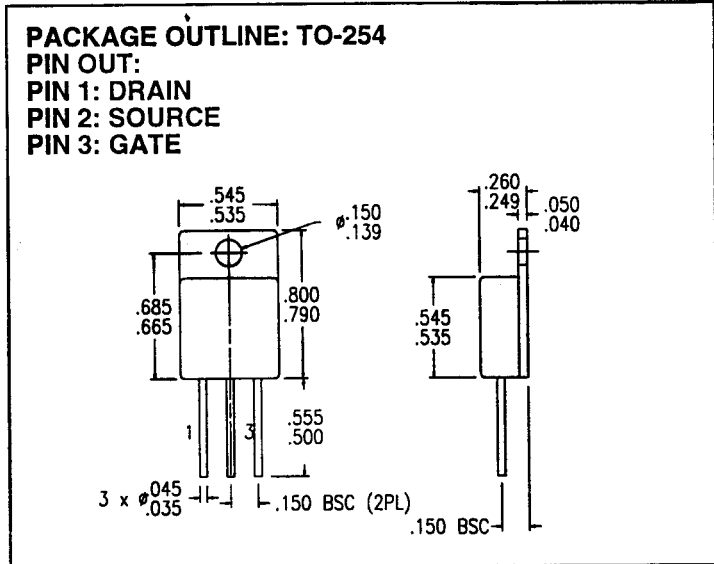
- Rugged construction with polysilicon gate
- Low RDS(on) and high transconductance
- Excellent high temperature stability
- Very fast switching speed
- Fast recovery and superior dv/dt performance
- Increased reverse energy capability
- Low input and transfer capacitance for easy paralleling
- Ceramic Seals for improved hermeticity
- Hermetically sealed power package
- TX, TXV and Space Level screening available
- Replaces: IXTH10N100 Types

10 AMP
1000 VOLTS
1.2 Ω
N-CHANNEL
POWER MOSFET



MAXIMUM RATINGS:

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	1000	Volts
Gate to Source Voltage	V _{GS}	±20	Volts
Continuous Drain Current	I _D	10	Amps
Operating and Storage Temperature	T _{op} & T _{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	0.83	°C/W
Total Device Dissipation @ TC=25°C	P _D	150	Watts
Total Device Dissipation @ TC=55°C		114	



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 #: F00177 D	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 (V _{GS} =0 V, I _D =3mA)		BV _{DSS}	1000	---	---	V
Drain to Source on State Resistance (V _{GS} =10 V, I _D =50% Rated ID)		R _{DS(on)}	---	1.05	1.2	Ω
On State Drain Current (V _{DS} = 15V, V _{GS} =10 V)		I _{D(on)}	10	---	---	A
Gate Threshold Voltage (V _{DS} ≥V _{GS} , I _D =4mA)		V _{GS(th)}	2.0	---	4.5	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} =50% rated ID)		g _{fs}	5	8	---	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 50% rated V _{DS} Rated ID	Q _g Q _{gs} Q _{gd}	---	110 20 40	155 45 80	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} =50% rated V _{DS} 50% Rated ID R _G =6.2Ω V _{GS} =10V	t _{d(on)} t _r t _{d(off)} t _f	---	30 20 110 40	50 50 130 50	nsec
Diode Forward Voltage (I _S =rated ID, V _{GS} =0 V, T _J =25°C)		V _{SD}	---	---	1.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25°C I _F =rated ID di/dt=100 A/μsec	t _{rr} Q _{RR}	---	850 ---	1200 ---	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}	---	4000 310 70	---	pF

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

