

SFF140-28

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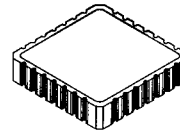
Designer's Data Sheet

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 surface mount package
- TX, TXV and Space Level screening available
- Replaces: IRF140 Types

**28*AMP
 100 VOLT
 0.095 Ω
 N-CHANNEL
 POWER MOSFET**

28 PIN CLCC



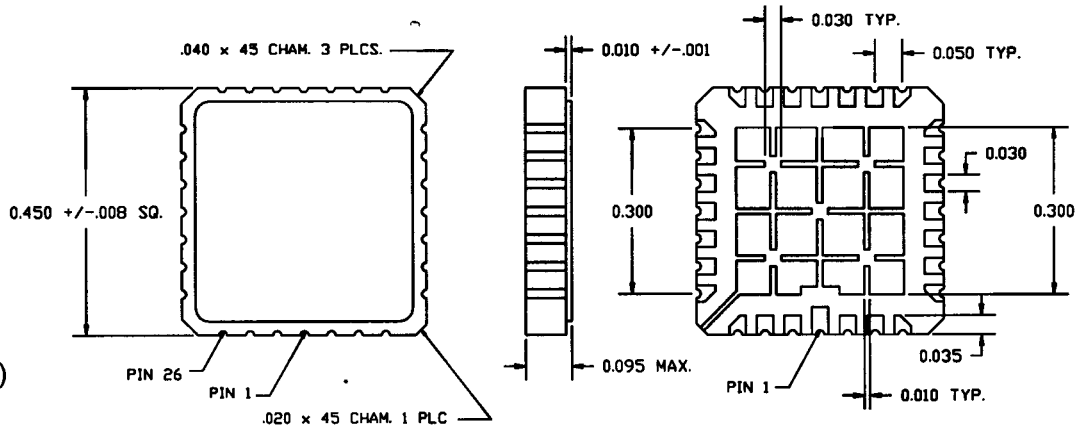
MAXIMUM RATINGS

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	28*	Amps
Operating and Storage Temperature	T _{op} & T _{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	3.5	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=80°C	P _D	20* 20	Watts

PACKAGE OUTLINE: 28 PIN CLCC

PIN OUT:
 SOURCE: 1, 15-28
 DRAIN: 5-11
 GATE: 2, 3, 13, 14

NOTE:
 All Drain/Source Pins must be connected on the PC Board in order to maximize current capability and minimize RDS(on)

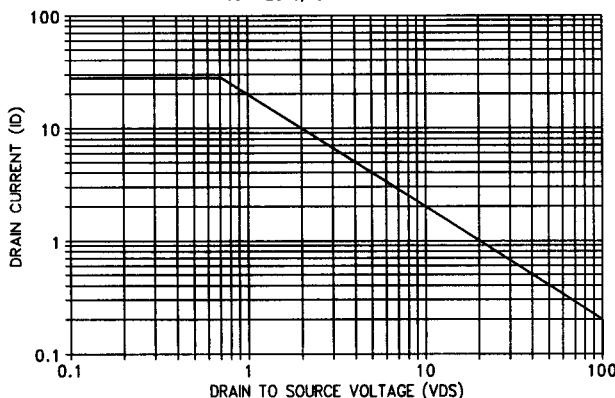


* Rating based on size of chip. Device rating may vary depending on mounting and heatsink conditions. Consult SSDI Marketing department for thermal derating details.

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=60% Rated ID)		R _{DS(on)}	---	0.075	0.095**	Ω
On State Drain Current (VDS > ID(on) X RDS(on) Max, VGS=10 V)		ID(on)	28*	---	---	A
Gate Threshold Voltage (VDS=VGS, ID=250µA)		VGS(th)	2.0	---	4.0	V
Forward Transconductance (VDS > ID(on) X RDS(on) Max, IDS=60% rated ID)		g _{fs}	8.7	11	---	S(Ω)
Zero Gate Voltage Drain Current (VDS=max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=150° 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 50% rated VDS Rated ID	Q _g Q _{gs} Q _{gd}	---	40 8 20	59 12 28	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD=50% rated VDS rated ID RG= 9.1Ω	td(on) tr td(off) tf	---	15 72 40 50	23 110 60 75	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, T _J =25° C)		VSD	---	---	2.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25° C IF=10A di/dt=100 A/µsec	t _{rr} Q _{RR}	70 0.44	150 0.91	300 1.9	nsec µC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=0 Volts VDS=25 Volts f= 1 MHz	C _{iss} C _{oss} C _{rss}	---	1500 500 90	---	pF

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



NOTES:

- * Rating based on size of chip. Device rating may vary depending on mounting and heatsink conditions. Consult SSDI Marketing department for thermal derating details.
- ** Due to package resistance; all Source/Drain pins must be connected on the PC Board in order to obtain the lowest RDS(on) possible.