

SFF120-28Q

SOLID STATE DEVICES, INC.

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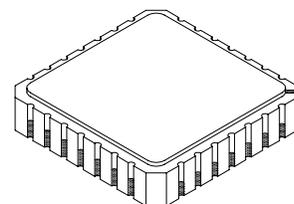
DESIGNER'S DATA SHEET

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 4x IRF120 Types in One Package

9.2 AMPS
100 VOLTS
0.35Ω
QUAD 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	9.2	Amps
Operating and Storage Temperature	T _{op} & T _{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case (All Four)	R _{θJC}	10	°C/W
Total Device Dissipation	P _D	12.5 9.5	Watts
		@ TC = 25°C @ TC = 70°C	

PACKAGE OUTLINE: 28

PIN OUT:

MOSFET 1

DRAIN: 5, 6, 7
 GATE: 1
 SOURCE: 2, 3, 4

MOSFET 2

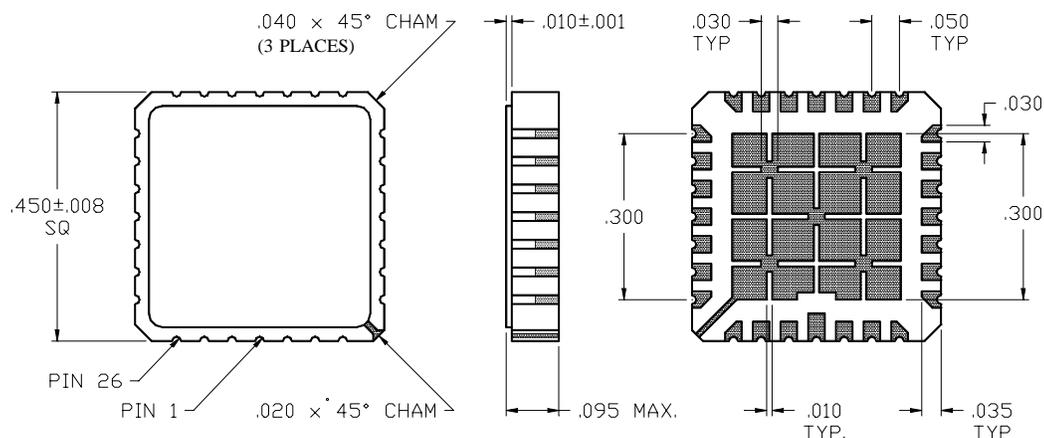
DRAIN: 9, 10, 11
 GATE: 8
 SOURCE: 12, 13, 14

MOSFET 3

DRAIN: 19, 20, 21
 GATE: 15
 SOURCE: 16, 17, 18

MOSFET 4

DRAIN: 23, 24, 25
 GATE: 22
 SOURCE: 26, 27, 28



NOTE: All drain/source pins must be connected on the PC board in order to maximize current carrying capability and to minimize RDS (on)

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}	100	-	-	V
Drain to Source ON State Resistance (V _{GS} = 10 V, 60% of Rated ID)		R_{DS(on)}	-	-	0.35	Ω
ON State Drain Current (V _{DS} > I _{D(on)} x R _{DS(on)} Max, V _{GS} = 10 V)		I_{D(on)}	9.2	-	-	A
Gate Threshold Voltage (V _{DS} = V _{GS} , I _D = 250μA)		V_{GS(th)}	2.0	-	4.0	V
Forward Transconductance (V _{DS} > I _{D(on)} x R _{DS(on)} Max, I _{DS} = 60% rated ID)		g_{fs}	2.7	4.1	-	S(Ω)
Zero Gate Voltage Drain Current (V _{DS} = max rated Voltage, V _{GS} = 0V) (V _{DS} = 80% rated V _{DS} , V _{GS} = 0V, T _A = 125°C)		I_{DSS}	-	-	25 250	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 V 80% rated V _{DS} 60% rated ID	Q_g Q_{gs} Q_{gd}	-	10.7 2.9 5.1	16 4.4 7.7	nC
Turn on Delay Time Rise Time Turn off DELAY Time Fall Time	V _{DD} = 50% rated V _{DS} 50% rated ID R _G = 18 Ω	t_{d(on)} tr t_{d(off)} tf	-	13 30 19 20	20 45 29 30	nsec
Diode Forward Voltage (I _S = rated I _D , V _{GS} = 0V, T _J = 25°C)		V_{SD}	-	-	2.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J = 25°C I _F = rated ID di/dt = 100A/μsec	t_{rr} Q_{RR}	55 0.25	140 0.65	260 1.3	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}	-	350 130 36	- - -	pF

For thermal derating curves and other characteristic curves please contact SSDI Marketing Department.

NOTES: