PRELIMINARY

SFF75N06-28

SOLID STATE DEVICES, INC.

14005 Stage Road * Santa Fe Springs, Ca 90670
Phone: (562) 404-4474 * Fax: (562) 404-1773

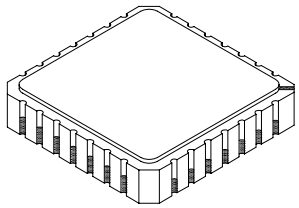
30 AMP [1/]
60 VOLTS
25mΩ
N-CHANNEL
POWER MOSFET

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 transfer capacitance for easy paralleling**
- **Hermetically sealed surface mount package**
- **TX, TXV and Space Level screening available**

28 PIN CLCC



MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V_{DS}	**100**	**Volts**
Drain to Gate Voltage (RGS = 1.0 mΩ)	V_{DG}	**60**	**Volts**
Gate to Source Voltage	V_{GS}	**±20**	**Volts**
Continuous Drain Current @ TC = 25°C	I_D	**30**	**Amps**
Operating and Storage Temperature	T_{op} & T_{stg}	**-55 to +150**	**°C**
Thermal Resistance, Junction to Case (All Four)	$R_{\theta JC}$	**3.5**	**°C/W**
Total Device Dissipation @ TC = 25°C	P_D	**35**	**Watts**

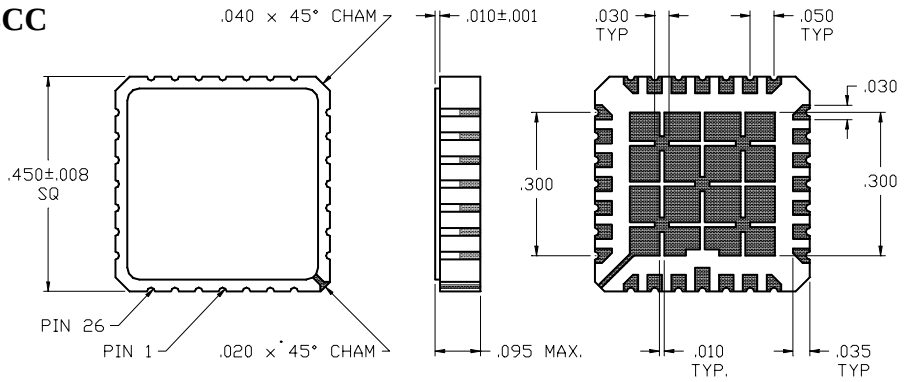
PACKAGE OUTLINE: 28 PIN CLCC

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 carrying capability and to minimize RDS (on)



NOTE: All specifications are subject to change without notification.
SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: FT0001A

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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)		**BV_{DSS}**	60	-	-	**V**
Drain to Source ON State Resistance 2/ (VGS = 10 V)	60% of Rated ID, T_C = 25°C	**$R_{DS(on)}$**	-	23	25	**mΩ**
	Rated ID, T_C = 25°C		-	25	27	
	60% of Rated ID, T_C = 150°C		-	27	-	
Gate Threshold Voltage (VDS =VGS, ID =250µA)		**$V_{GS(th)}$**	2	-	4	**V**
Forward Transconductance (VDS > ID(on) x RDS (on) Max, IDS =60% rated ID)		**gf_s**	15	35	-	**S(℧)**
Zero Gate Voltage Drain Current (VDS =80% rated VDS, VGS =0 V, T_A = 25°C)		**I_{DSS}**	-	-	10	**µA**
(VDS =80% rated VDS, VGS =0 V, T_A = 125°C)			-	-	100	
Gate to Source Leakage Forward	At rated VGS	**I_{GSS}**	-	-	100	**nA**
Gate to Source Leakage Reverse			-	-	100	
Total Gate Charge	VGS =10 Volts	**Qg**	-	83	100	**nC**
Gate to Source Charge	50% rated VDS	**Qgs**	-	13	20	
Gate to Drain Charge	Rated ID	**Qgd**	-	40	55	
Turn on Delay Time	VDD =50%	**$t_{d\ (on)}$**	-	20	40	**nsec**
Rise Time	rated VDS	**tr**	-	35	70	
Turn off DELAY Time	rated ID	**$t_{d\ (off)}$**	-	65	130	
Fall Time	RG = 6.2 Ω	**tf**	-	40	80	
Diode Forward Voltage (I_S = rated I_D, V_{GS} = 0V, T_J = 25°C)		**V_{SD}**	-	1.47	1.6	**V**
Diode Reverse Recovery Time	TJ =25°C	**t_{rr}**	-	70	150	**nsec**
Reverse Recovery Charge	IF = 10A di/dt = 100A/µsec					
Input Capacitance	VGS =0 Volts	**Ciss**	-	2600	2900	**pF**
Output Capacitance	VDS =25 Volts	**Coss**	-	700	1100	
Reverse Transfer Capacitance	f =1 MHz	**Crss**	-	260	275	

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

NOTES:

1/ Die Rating: 75Amps.

2/ All package pins of the same terminations (Drain/Source/Gate) must be connected together to minimize $R_{DS(on)}$ and maximize current carrying capability.