



SOLID STATE DEVICES, INC

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

SFF16N60NC

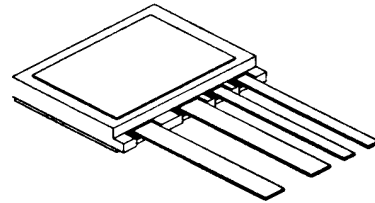
Designer's Data Sheet

FEATURES:

- Rugged construction with poly silicon gate
- Ultra 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 package
- TX, TXV and Space Level screening available
- Replaces: APT6040N Types

**16.5 AMP
600 VOLT
0.40 Ω
N-CHANNEL
POWER MOSFET**

TO-258 CERAMIC



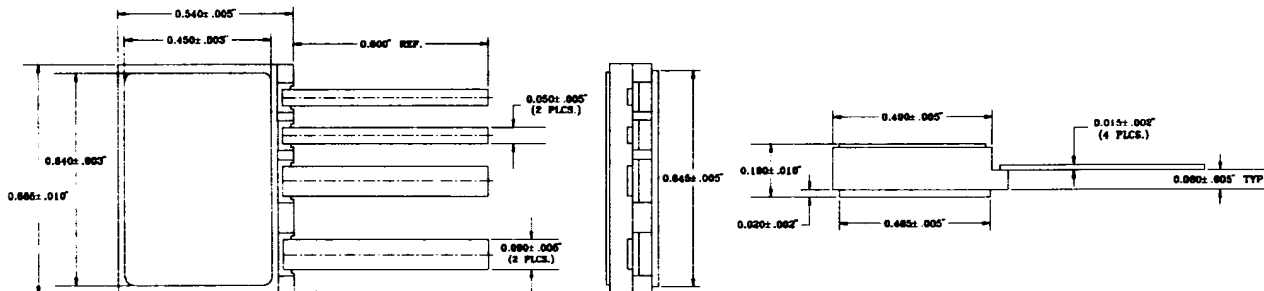
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	600	Volts
Gate to Source Voltage	V _{GS}	±30	Volts
Continuous Drain Current	I _D	16.5	Amps
Operating and Storage Temperature	T _{OP} & T _{STG}	-65 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	0.5	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	P _D	190 250	Watts

PACKAGE OUTLINE: TO-258 CERAMIC

PIN OUT:

- PIN 1: DRAIN
PIN 2: SOURCE
PIN 3: SOURCE-SENSE
PIN 4: GATE



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

DATA SHEET #: F00243 A

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HIGH FREQUENCY

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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 =250μA)		BV_{DSS}	600	---	---	V
Drain to Source on State Resistance (V _{GS} =10 V, I _D = 0.5 A)		R_{DS(on)}	---	---	0.40	Ω
On State Drain Current (V _{GS} =10V, V _{DS} =10V)		I_{D(on)}	16.5	---	---	A
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D = 1mA)		V_{GS(th)}	2	---	4	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _D = 30 A)		g_{fs}	---	---	---	S(Ω)
Zero Gate Voltage Drain Current (V _{DS} = 600 V, V _{GS} =0 V, T _A =25°C) (V _{DS} = 600 V, V _{GS} =0 V, T _A =125°C)		I_{DSS}	---	---	250 1000	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse	V _{DS} =0V V _{GS} =±30V	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 I _D	Q_g Q_{gs} Q_{gd}	---	87 11 46	130 16 69	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} = 30 V Rated I _D R _G = 1.8 Ω V _{GEN} = 10 V	t_{d(on)} t_r t_{d(off)} t_f	---	14 23 63 23	28 46 95 46	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25°C)		V_{SD}	---	---	1.3	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25°C I _F =rated I _D di/dt=100 A/μsec	t_{rr} Q_{RR}	152 2.5	334 5	668 10	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}	---	2400 436 154	2950 610 230	pF

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