



SOLID STATE DEVICES, INC.

14830 Valley View Blvd * La Mirada, Ca 90638
 Phone: (562) 404-7855 * Fax: (562) 404-1773

DESIGNER'S DATA SHEET

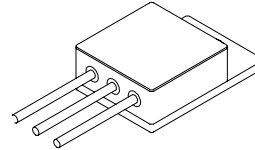
SFF75N06M SFF75N06Z

**75 AMP
60 VOLTS
15mΩ
N-CHANNEL
POWER MOSFET**

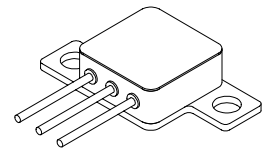
FEATURES:

- Advanced high-cell density withstands high energy
- Very low conduction and switching losses
- Fast recovery drain-to-source diode with soft recovery
- 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

TO-254 (M)



TO-254Z (Z)



MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	60	Volts
Drain to Gate Voltage (RGS = 1.0 mΩ)	V _{DG}	60	Volts
Gate to Source Voltage	V _{GS}	± 20	Volts
Continuous Drain Current	I _D	56 ^{1/2}	Amps
Operating and Storage Temperature	T _{op} & T _{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	1	°C/W
Total Device Dissipation	P _D	@ TC = 25°C	125
		@ TC = 55°C	95

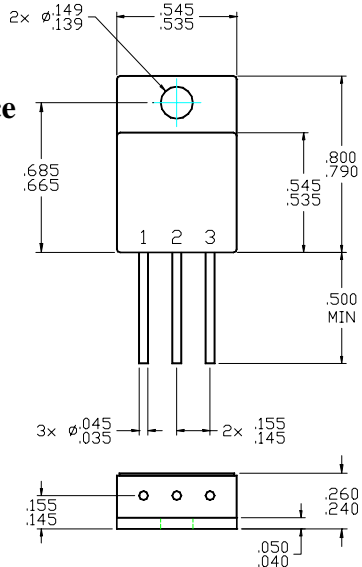
CASE OUTLINE: TO-254 (Suffix M)

Pin Out:

Pin 1: Drain

Pin 2: Source

Pin 3: Gate



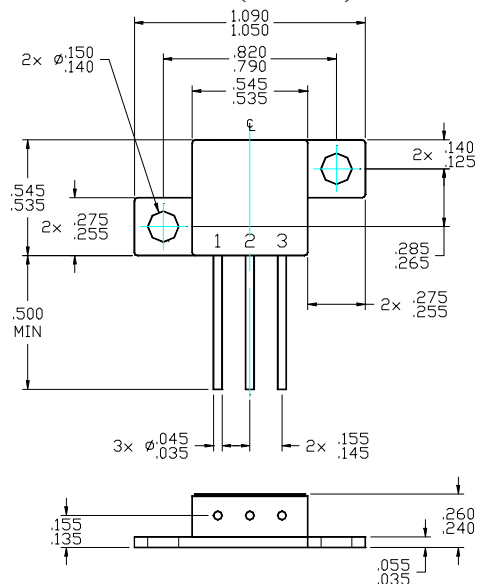
CASE OUTLINE: TO-254Z (Suffix Z)

Pin Out:

Pin 1: Drain

Pin 2: Source

Pin 3: Gate



Available with Glass or Ceramic Seals. Contact Factory for details.

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

DATA SHEET #: F00311B

SFF75N06M
SFF75N06Z



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ELECTRICAL CHARACTERISTICS @ $T_J = 25^\circ\text{C}$ (Unless Otherwise Specified)

RATING	SYMBOL	MIN	TYP	MAX	UNIT	
Drain to Source Breakdown Voltage ($V_{GS} = 0\text{ V}, I_D = 250\mu\text{A}$)	BV_{DSS}	60	-	-	V	
Drain to Source on State Resistance ($V_{GS} = 10\text{ V}, T_c = 150^\circ\text{C}$)	$R_{DS(on)}$	-	13 15 19	-	$m\Omega$	
On State Drain Current ($V_{DS} > I_D(on) \times R_{DS(on)}$ Max, $V_{GS} = 10\text{ V}$)	$I_D(on)$	75	-	-	A	
Gate Threshold Voltage ($V_{DS} = V_{GS}, I_D = 250\mu\text{A}$)	$V_{GS(th)}$	2	-	4.0	V	
Forward Transconductance ($V_{DS} > I_D(on) \times R_{DS(on)}$ Max, $I_{DS} = 60\%$ rated ID)	g_{fs}	15	35	-	Smho	
Zero Gate Voltage Drain Current ($V_{DS} = 80\%$ rated voltage, $V_{GS} = 0\text{ V}$) ($V_{DS} = 80\%$ rated $V_{DS}, V_{GS} = 0\text{ V}, T_A = 125^\circ\text{C}$)	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	$V_{GS} = 10\text{ V}$ 50% rated V_{DS} Rated ID	Q_g Q_{gs} Q_{gd}	-	80 13 40	120 17 64	nC
Turn on Delay Time Rise Time Turn off Delay Time Fall Time	$V_{DD} = 50\%$ rated V_{DS} 50% rated ID $R_G = 6.2\Omega$	$t_d(on)$ t_r $t_d(off)$ t_f	-	20 35 65 40	27 66 100 60	nsec
Diode Forward Voltage ($I_S = \text{rated } I_D, V_{GS} = 0\text{ V}, T_J = 25^\circ\text{C}$)	V_{SD}	-	1.47	1.4	V	
Diode Reverse Recovery Time Reverse Recovery Charge	$T_J = 25^\circ\text{C}$ $I_F = 10$ $di/dt = 100\text{ A}/\mu\text{sec}$	t_{rr} Q_{RR}	-	70	150	nsec
Input Capacitance Output Capacitance Reverse Transfer Capacitance	$V_{GS} = 0\text{ Volts}$ $V_{DS} = 25\text{ Volts}$ $f = 1\text{ MHz}$	C_{iss} C_{oss} C_{rss}	-	2600 700 260	2900 1100 275	pF

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

NOTES:

1/ Maximum current limited by package, die rated at 75A.