



SOLID STATE DEVICES, INC.

14830 Valley View Blvd * La Mirada, Ca 90638

Phone: (562) 404-7855 * Fax: (562) 404-1773

DESIGNER'S DATA SHEET

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

SFF75N06M

SFF75N06Z

75 AMP

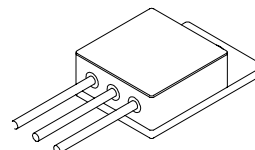
60 VOLTS

15m Ω

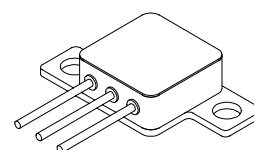
N-CHANNEL

POWER MOSFET

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 m Ω)	V_{DG}	60	Volts
Gate to Source Voltage	V_{GS}	± 20	Volts
Continuous Drain Current	I_D	56 $\frac{1}{2}$	Amps
Operating and Storage Temperature	$T_{op} \text{ \& } T_{stg}$	-55 to +150	$^{\circ}C$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1	$^{\circ}C/W$
Total Device Dissipation	P_D	125 95	Watts
@ TC = 25 $^{\circ}C$			
@ TC = 55 $^{\circ}C$			

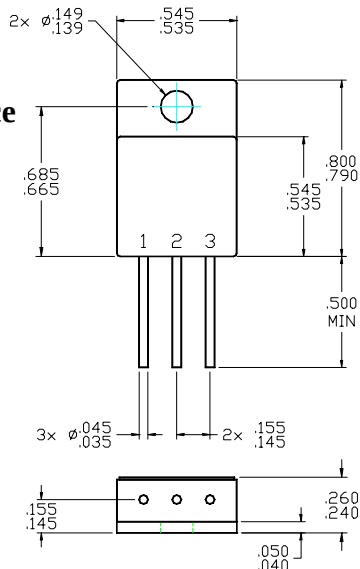
CASE OUTLINE: TO-254 (Sufix M)

Pin Out:

Pin 1: Drain

Pin 2: Source

Pin 3: Gate



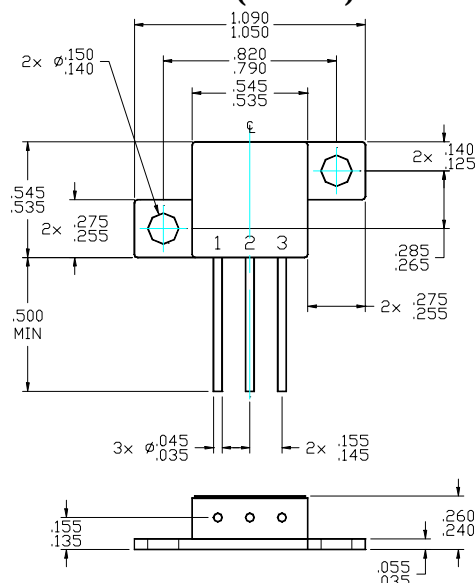
CASE OUTLINE: TO-254Z (Sufix Z)

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°C (Unless Otherwise Specified)

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (V _{GS} = 0 V, I _D = 250μA)		BV_{DSS}	60	-	-	V
Drain to Source on State Resistance (V _{GS} = 10 V, T _c = 150°C)	I _D = 37.5A	R_{DS(on)}	-	13	-	mΩ
	I _D = 75A		-	15	-	
	I _D = 37.5A		-	19	-	
On State Drain Current (V _{DS} > I _{D(on)} x R _{DS(on)} Max, V _{GS} = 10 V)		I_{D(on)}	75	-	-	A
Gate Threshold Voltage (V _{DS} = V _{GS} , I _D = 250μA)		V_{GS(th)}	2	-	4.0	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} = 60% rated I _D)		g_{fs}	15	35	-	Smho
Zero Gate Voltage Drain Current (V _{DS} = 80% rated voltage, V _{GS} = 0V) (V _{DS} = 80% rated V _{DS} , V _{GS} = 0V, T _A = 125°C)		I_{DSS}	-	-	250 1000	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse	At rated V _{GS}	I_{GSS}	-	-	+100	nA
			-	-	-100	
Total Gate Charge Gate to Source Charge Gate to Drain Charge	V _{GS} = 10 V	Q_g	-	80	120	nC
	50% rated V _{DS}	Q_{gs}	-	13	17	
	Rated I _D	Q_{gd}	-	40	64	
Turn on Delay Time Rise Time Turn off Delay Time Fall Time	V _{DD} = 50% rated V _{DS}	t_{d(on)}	-	20	27	nsec
	50% rated I _D	t_r	-	35	66	
	RG = 6.2Ω	t_{d(off)}	-	65	100	
		t_f	-	40	60	
Diode Forward Voltage (I _S = rated I _D , V _{GS} = 0V, T _J = 25°C)		V_{SD}	-	1.47	1.4	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J = 25°C IF = 10 di/dt = 100A/μsec	t_{rr}	-	70	150	nsec
		Q_{RR}	-			
Input Capacitance Output Capacitance Reverse Transfer Capacitance	V _{GS} = 0 Volts	C_{iss}	-	2600	2900	pF
	V _{DS} = 25 Volts	C_{oss}	-	700	1100	
	f = 1 MHz	C_{rss}	-	260	275	

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

NOTES:

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