



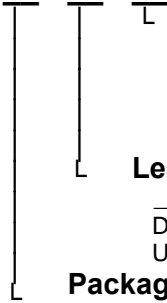
Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638
 Phone: (562) 404-4470 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SFF60P05



Screening ^{2/}

- = Not Screened
- TX = TX Level
- TXV = TXV Level
- S = S Level

Lead Option

- = Straight Leads
- DB = Down Bend
- UB = Up Bend

Package ^{3/}

- M = TO-254
- Z = TO-254Z

SFF60P05M
SFF60P05Z

-60 AMP/-50 Volts
25 mΩ typical
P-Channel
POWER MOSFET

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
- TX, TXV, and Space Level Screening Available. Consult Factory.

Maximum Ratings ^{4/}

	Symbol	Value	Units
Drain - Source Voltage	V _{DS}	-50	V
Gate - Source Voltage	V _{GS}	±20	V
Continuous Drain Current	I _D	-60	A
Operating & Storage Temperature	T _{OP} & T _{STG}	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	0.8	°C/W
Total Device Power Dissipation	P _D	156 118	Watts
		T _C = 25°C T _C = -55°C	

NOTES:

*Pulse Test: Pulse Width = 300µsec, Duty Cycle = 2%.

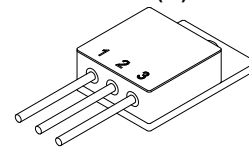
^{1/} For ordering information, price, and availability - contact factory.

^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.

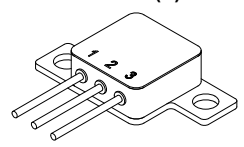
^{3/} Maximum current limited by package configuration.

^{4/} Unless otherwise specified, all electrical characteristics @25°C.

TO-254 (M)



TO-254Z (Z)



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

DATA SHEET #: FP0045E

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SFF60P05M
SFF60P05Z

Electrical Characteristics ^{4/}		Symbol	Min	Typ	Max	Units
Drain to Source Breakdown Voltage ($V_{GS} = 0V, I_D = 250\mu A$)		BV_{DSS}	-50	-70	—	Volts
Drain to Source On State Resistance ($V_{GS} = -10V, I_D = 60A$)		$R_{DS(on)1}$	—	0.021	0.033	Ω
Drain to Source On State Resistance ($V_{GS} = -10V, I_D = 30A$)		$R_{DS(on)2}$	—	0.021	—	Ω
Gate Threshold Voltage ($V_{DS} = V_{GS}, I_D = -250\mu A$)		$V_{GS(th)}$	-2.0	-2.8	-4.0	Volts
Forward Transconductance ($V_{DS} > I_{D(on)} \times R_{DS(on)}$ Max, $I_{Ds} = 50\%$ of Rated I_D)		g_{fs}	—	50	—	S
Zero Gate Voltage Drain Current ($V_{DS} = 50V, V_{GS} = 0V$) ($V_{DS} = 40V, V_{GS} = 0V$)	$T_A = 25^\circ C$ $T_A = 125^\circ C$	I_{DSS}	— —	0.005 —	1 50	μA
Gate to Source Leakage (For Gate to Source Leakage)	At Rated V_{GS}	I_{GSS}	— —	-10 10	-100 100	μA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	$V_{GS} = -10V$ $V_{DD} = 40V$ $I_D = 60A$	Q_g Q_{gs} Q_{gd}	— — —	200 20 80	300 50 125	nC
Turn on Delay Time Rise Time Turn off Delay Time Fall Time	$V_{DD} = 25V$ $I_D = 30A$ $R_L = 6.2\Omega$	$t_{(on)}$ $t_{d(on)}$ t_r $t_{(off)}$ $t_{d(off)}$ t_f	— — — — — —	— 40 20 — 90 60	125 — — 225 — —	ns
Diode Forward Voltage	$I_S = \text{Rated } I_D$ $V_{GS} = 0V$ $T_J = 25^\circ C$	V_{SD}	—	-1.3	-1.9	Volts
Diode Reverse Recovery Time	$I_F = 10A$ $di/dt = 100A/usec$	t_{rr} Q_{rr}	— —	140 —	200 —	ns μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	$V_{GS} = 0V$ $V_{DS} = -25V$ $f = 1MHz$	C_{iss} C_{oss} C_{rss}	— — —	6000 1800 500	— — —	pF

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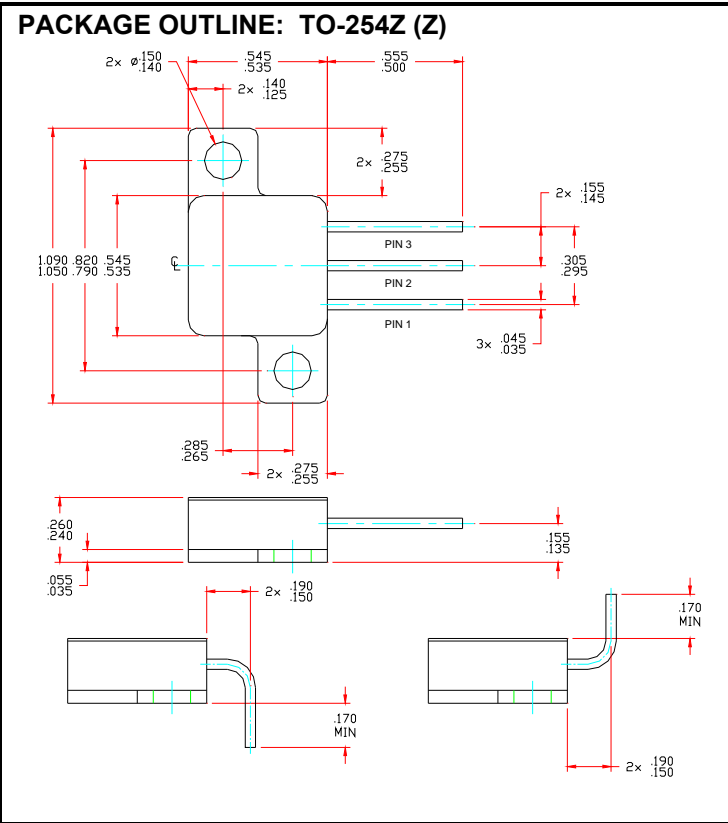
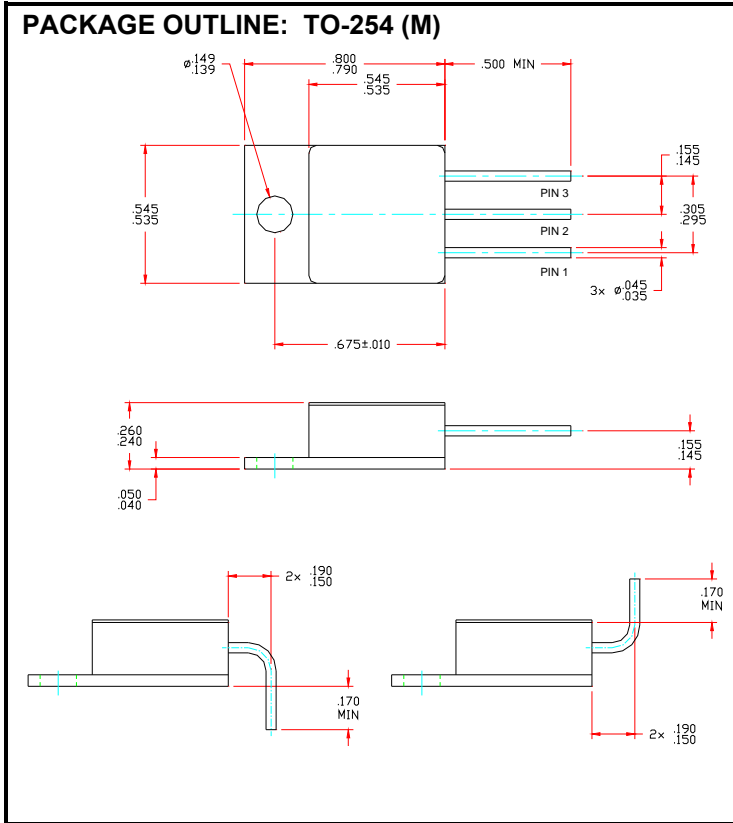
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SFF60P05M
SFF60P05Z



Available with glass or ceramic seals – contact factory for details.

Available Part Numbers:
SFF60P05M, SFF60P05MUB, SFF60P05MDB;
SFF60P05Z, SFF60P05ZUB, SFF60P05ZDB

PIN ASSIGNMENT (Standard)			
Package	Drain	Source	Gate
TO-254 (M)	Pin 1	Pin 2	Pin 3
TO-254Z (Z)	Pin 1	Pin 2	Pin 3