


Solid State Devices, Inc.

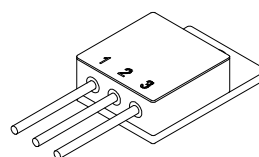
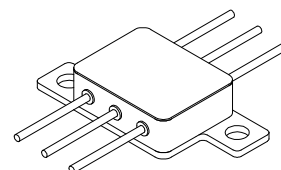
14830 Valley View Blvd * La Mirada, Ca 90638

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

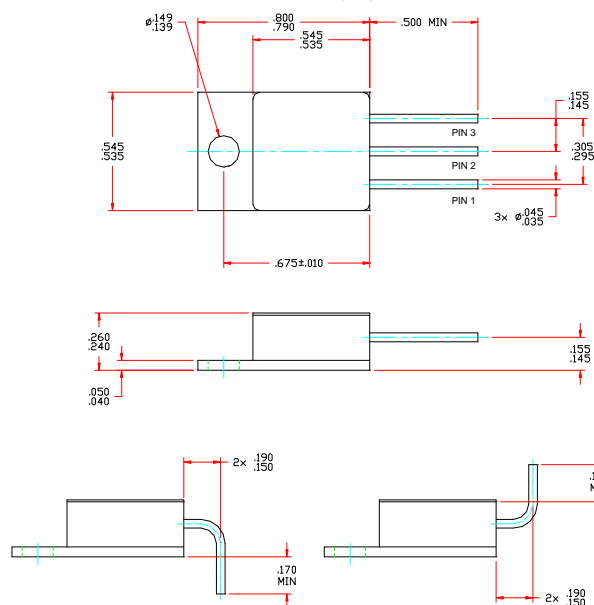
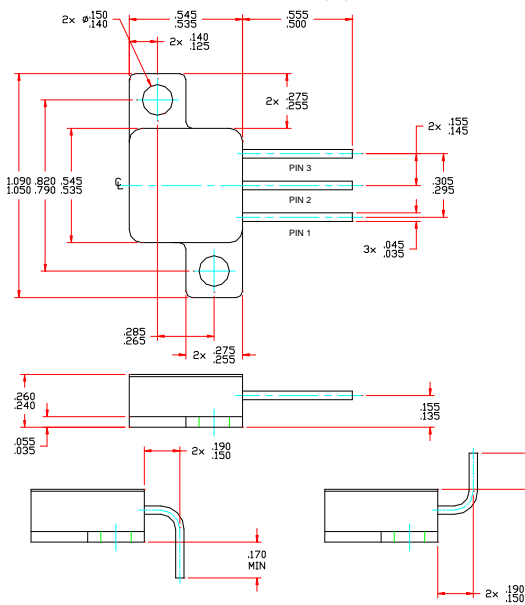
ssdi@ssdi-power.com * www.ssdi-power.com

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 and Transfer Capacitance for Easy Paralleling
- Hermetically Sealed
- TX, TXV, and Space Level Screening Available. Consult Factory.
- Replaces RFG60P05E Types

SFF60P05M
SFF60P05Z
-60 AMP/-50 Volts
33 mW
P-Channel
POWER MOSFET
TO-254 (M)

TO-254Z (Z)


Maximum Ratings	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	$T_{OP} \text{ \& } T_{STG}$	-55 to +150	$^{\circ}\text{C}$
Thermal Resistance, Junction to Case	R_{qJC}	0.8	$^{\circ}\text{C/W}$
Total Device Power Dissipation	P_D	156 118	Watts
$T_C = 25^{\circ}\text{C}$			
$T_C = -55^{\circ}\text{C}$			

PACKAGE OUTLINE: TO-254 (M)

PACKAGE OUTLINE: TO-254Z (Z)


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

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

DATA SHEET #: FP0045D
DOC


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**SFF60P05M
 SFF60P05Z**

Electrical Characteristics ^{4/}		Symbol	Min	Typ	Max	Units
Drain to Source Breakdown Voltage (V _{GS} = 0V, I _D = 250μA)		BV _{DSS}	-50	—	—	Volts
Drain to Source On State Resistance (V _{GS} = -10V, I _D = 60A)		R _{DS(on)}	—	—	0.033	W
On State Drain Current (V _{DS} > I _{D(on)} x R _{DS(on)} Max, V _{GS} = -10V)		R _{DS(on)}	—	—	—	Amps
Gate Threshold Voltage (V _{DS} = V _{GS} , I _D = -250μA)		V _{GS(th)}	-2.0	—	-4.0	Volts
Forward Transconductance (V _{DS} > I _{D(on)} x R _{DS(on)} Max, I _{DS} = 60% of Rated I _D)		g _{fs}	—	—	—	S
Zero Gate Voltage Drain Current (V _{DS} = Max Rated Voltage, V _{GS} = 0V) (V _{DS} = 80% Rated V _{DS} , V _{GS} = 0V)	T _A = 25°C	I _{DSS}	—	—	1	mA
	T _A = 125°C		—	—	50	
Gate to Source Leakage (For Gate to Source Leakage)	At Rated V _{GS}	I _{GSS}	— —	— —	-100 100	mA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	V _{GS} = -10V V _{DD} = 40V I _D = 60A R _L = 0.67Ω	Q _g Q _{gs} Q _{gd}	— — —	— — —	450 225 15	nC
Turn on Delay Time Rise Time Turn off Delay Time Fall Time	V _{DD} = 50% Rated V _{DS} 50% Rated I _D I _{G1} = I _{G2} = 2A R _L = 0.83Ω V _{GS(clamp)} = -10V/+0.6V	t _(on)	—	—	125	ns
		t _{d(on)}	—	20	—	
		t _r	—	70	—	
		t _(off)	—	—	125	
		t _{d(off)} t _f	— —	65 20	— —	
Diode Forward Voltage	I _S = Rated I _D V _{GS} = 0V T _J = 25°C	V _{SD}	—	—	-1.9	Volts
Diode Reverse Recovery Time	I _F = 10A di/dt = 100A/usec	t _{rr} Q _{rr}	— —	140 —	200 —	ns mC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	V _{GS} = 0V V _{DS} = -25V f = 1 MHz	C _{iss} C _{oss} C _{rss}	— — —	6000 1800 500	— — —	pF

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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