



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638
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DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SFF6661 /39

Screening ^{2/}

— = Not Screened

TX = TX Level

TXV = TXV Level

S = S Level

Package

/39 = TO-39

SFF6661/39

0.86 AMP
N-CHANNEL MOSFET
90 Volts, 4Ω

Features:

- Rugged construction
- Low RDS(on) and high transconductance
- Fast recovery and superior dv/dt performance
- Increased reverse energy capability
- Low input and transfer capacitance for easy paralleling
- Hermetically sealed package
- Very fast switching speed
- TX, TXV, S-Level screening available^{2/}
- Replacement for 2N6661

Maximum Ratings ^{3/}	Symbol	Value	Units
Drain - Source Voltage	V _{DS}	90	V
Gate - Source Voltage	V _{GS}	±20	V
Max. Continuous Drain Current (T _J = 150°C)	I _D	0.86 0.54	A
Max. Instantaneous Drain Current (T _j limited)	I _{DM}	3	A
Total Power Dissipation	P _D	6.25 0.725	W
Operating & Storage Temperature	T _{OP} & T _{STG}	-65 to +150	°C
Maximum Thermal Resistance (Junction to Ambient)	R _{θJA}	170	°C /W
(Junction to Case)	R _{θJC}	20	

NOTES:

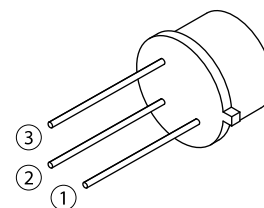
*Pulse Test: Pulse Width = 300μsec, Duty Cycle = 2%.

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

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

^{3/} Unless otherwise specified, all electrical characteristics @25°C.

TO-39



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

DATA SHEET #: FT0041B

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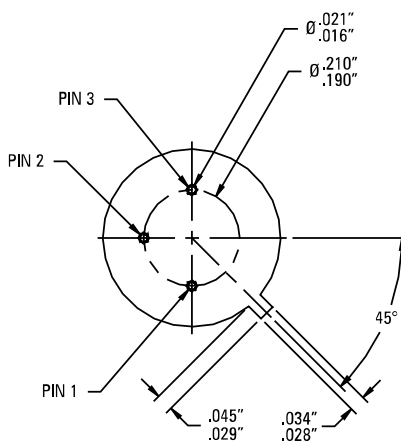
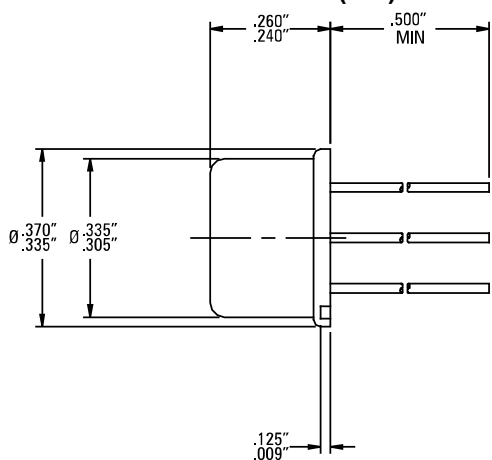
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SFF6661/39

Electrical Characteristics ^{3/}		Symbol	Min	Typ	Max	Units
Drain to Source Breakdown Voltage	$V_{DS} = 0V, I_D = 1.0\mu A$	BV_{DSS}	90	125	—	V
Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = 1.0mA$ $V_{DS} = V_{GS}, I_D = 1.0mA, T_A = -55^\circ C$ $V_{DS} = V_{GS}, I_D = 1.0mA, T_A = 125^\circ C$	$V_{GS(th)}$	0.8 — 0.3	1.6 1.8 1.3	2 2.5 —	V
Gate to Body Leakage	$V_{DS} = 0V, V_{GS} = \pm 20V$ $V_{DS} = 0V, V_{GS} = \pm 20V, T_A = 125^\circ C$	I_{GSS}	— —	— —	± 100 ± 500	nA
Zero Gate Voltage Drain Current	$V_{DS} = 72V, V_{GS} = 0V$ $V_{DS} = 72V, V_{GS} = 0V, T_A = 125^\circ C$	I_{DSS}	— —	— —	1 100	μA
On-State Drain Current*	$V_{DS} = 10V, V_{GS} = 10V$	$I_{D(on)}$	—	1.8	—	mA
Drain to Source On State Resistance*	$V_{GS} = 5V, I_D = 0.3A$ $V_{GS} = 10V, I_D = 1A$ $V_{GS} = 10V, I_D = 1A, T_A = 125^\circ C$	$R_{DS(on)}$	— — —	3.8 3.6 6.7	5.3 4 7.5	Ω
Forward Transconductance*	$V_{DS} = 7.5V, I_D = 0.475A$	g_{fs}	170	340	—	mS
Diode Forward Voltage	$I_S = 0.86A, V_{GS} = 0V$	V_{SD}	0.7	0.9	1.4	V
Input Capacitance	$V_{GS} = 0V$	C_{iss}	—	35	50	pF
Output Capacitance	$V_{DS} = 25V$	C_{oss}	—	15	40	
Reverse Transfer Capacitance	$f = 1MHz$	C_{rss}	—	2	10	
Drain-Source Capacitance		C_{ds}	—	30	—	
Turn-On Time	$V_{DD} = 25V, R_L = 23\Omega$	$t_{(on)}$	—	6	10	nsec
Turn-Off Time	$I_D = 1A, V_{GEN} = 10V, R_G = 23\Omega$	$t_{(off)}$	—	8	10	

CASE OUTLINE: TO-39 (/39)



PIN ASSIGNMENT (Standard)

Package	Drain	Source	Gate
TO-39(/39)	Pin 3	Pin 1	Pin 2

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