



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

Part Number / Ordering Information ^{1/}

SFF11N80

Screening ^{2/} = Not Screen

TX = TX Level

TXV = TXV Level

S = S Level

Lead Option ^{3/} = Straight Leads

DB = Down Bend

UB = Up Bend

Package ^{3/} M = TO-254

Z = TO-254Z

SFF11N80 Series

11 AMP / 800 Volts

0.95 Ω

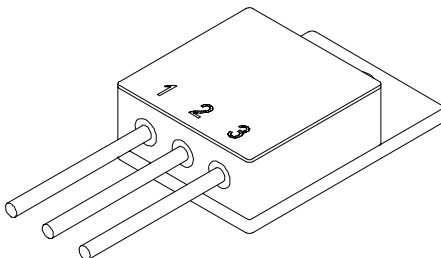
N-Channel MOSFET

Features:

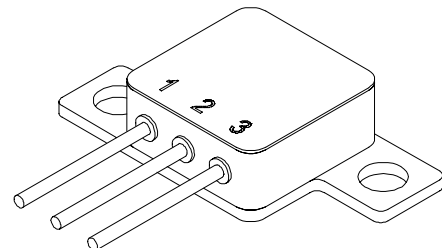
- Rugged Construction with Polysilicon Gate Cell
- Low $R_{DS(ON)}$ and High Transconductance
- Excellent High Temperature Stability
- Very Fast Switching Speed
- Fast Recovery and Superior dV/dt performance
- Increased Reverse Energy Capability
- Low Input and Transfer Capacitance for Easy Paralleling
- Hermetically Sealed, Isolated Package
- Ceramic Seal Package Available. Contact Factory
- TX, TXV, S-Level screening available
- Replacement for IXTH11N80 Types

Maximum Ratings	Symbol	Value	Units
Drain – Source Voltage	V_{DS}	800	Volts
Gate – Source Voltage	V_{GS}	± 20	Volts
Continuous Collector Current	I_D	11	Amps
Power Dissipation $T_C = 25^\circ C$ $T_C = 55^\circ C$	P_D	150 114	W
Operating & Storage Temperature	Top & Tstg	-55 to +175	$^\circ C$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	0.83	$^\circ C/W$

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 #: F00213C

DOC

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SFF11N80 Series

Electrical Characteristics ^{4/}		Symbol	Min	Typ	Max	Units
Drain to Source Breakdown Voltage (V _{GS} = 0V, I _D = 250μA)		BV _{DSS}	800	—	—	Volts
Drain to Source On State Resistance (V _{GS} = 10V, I _D = 5.5A)		R _{DS(on)}	—	—	0.95	Ω
On State Drain Current (V _{DS} > I _{D(on)} x R _{DS(on)} Max, V _{GS} = 10V)		I _{D(on)}	11	—	—	A
Gate Threshold Voltage (V _{DS} = V _{GS} , I _D = 250μA)		V _{GS(th)}	2.0	—	4.5	V
Gate to Source Leakage (V _{GS} = ±20V)		I _{GSS}	—	—	±100	nA
Zero Gate Voltage Drain Current (V _{GS} = 0V)		I _{DSS}	V _{DS} = 800V, T _A = 25°C —	—	250	μA
			V _{DS} = 640V, T _A = 125°C —	—	1.0	mA
Forward Transconductance * (V _{DS} > I _{D(on)} x R _{DS(on)} Max, I _D = 5.5A)		g _{fs}	8.0	14	—	Mho
Total Gate Charge Gate to Source Charge Gate to Drain Charge	V _{GS} = 10V	Q _g	—	128	145	nC
	V _{DS} = 640V	Q _{gs}	—	30	55	
	I _D = 5.5A	Q _{gd}	—	55	80	
Turn on Delay Time Rise Time Turn on Delay Time Fall Time	V _{DS} = 400V I _D = 5.5A R _G = 2.0Ω	t _{d(on)}	—	20	50	nsec
		t _r	—	33	50	
		t _{d(off)}	—	63	100	
		t _f	—	32	50	
Diode Forward Voltage * (I _F = 11A, V _{GS} = 0V)		V _{SD}	—	—	1.5	V
Diode Reverse Recovery Time (I _F = 11A, di/dt = 100A/μsec)		t _{rr}	—	—	550	nsec
Input Capacitance Output Capacitance Reverse Transfer Capacitance	V _{GS} = 0V	C _{iss}	—	4200	—	pF
	V _{DS} = 25V	C _{oss}	—	360	—	
	f = 1MHz	C _{rss}	—	100	—	

NOTES:* Pulse Test: Pulse Width = 300 μ sec, Duty Cycle = 2%

1/ For Ordering Information, Price, and Availability Contact Factory.

2/ Screening per MIL-PRF-19500

3/ For Package Outlines Contact Factory.

4/ Unless Otherwise Specified, All Electrical Characteristics @25°C.

Available Part Numbers:**SFF11N80M; SFF11N80MDB; SFF11N80MUB;****SFF11N80Z; SFF11N80ZDB; SFF11N80ZUB;****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



DATA SHEET APPROVAL FORM

Data Sheet Number F00213 Rev C Check Box to Include on Web: ☐

Part Number(s): SFF11N80M
SFF11N80Z

Approval	Sign	Date
Engineering Manager:	_____	_____
Executive / CEO	_____	_____
Operation Manager:	_____	_____
Marketing Manager:	_____	_____
Quality Manager:	_____	_____

Revisions

ECO No	REV	DATE	DESCRIPTION	APPROVAL
E-030492	C	08/12/03	Changed Trr 250ns to 550ns	