



Solid State Devices, Inc.

14830 Valley View Blvd * La Mirada, Ca 90638

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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

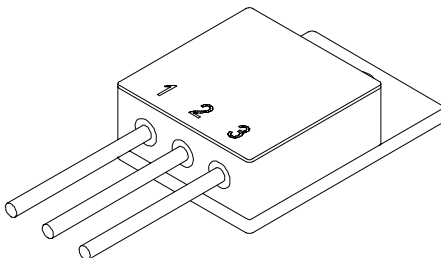
11 AMP / 800 Volts 0.95 Ω N-Channel MOSFET

Features:

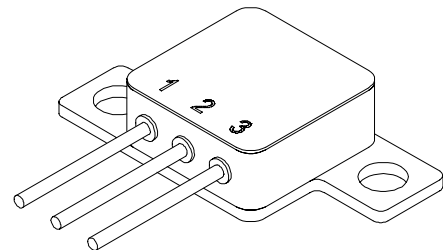
- Rugged Construction with Polysilicon Gate Cell
- Low $R_{DS(ON)}$ and High Transconductance
- Excellent High Temperature Stability
- Very Fast Switching Speed
- Fast Recovery and Superior dV/dt performance
- Increased Reverse Energy Capability
- Low Input and Transfer Capacitance for Easy Paralleling
- 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
Continues Collector Current	I_D	11	Amps
Power Dissipation	P_D	150 114	W
Operating & Storage Temperature	Top & Tstg	-55 to +175	°C
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	0.83	°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 = 300μsec, 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

