

NTMD4184PF

Power MOSFET and Schottky Diode

-30 V, -4.0 A, Single P-Channel with 20 V, 2.2 A, Schottky Barrier Diode

Features

- FETKY™ Surface Mount Package Saves Board Space
- Independent Pin-Out for MOSFET and Schottky Allowing for Design Flexibility
- Low $R_{DS(on)}$ MOSFET and Low V_F Schottky to Minimize Conduction Losses
- Optimized Gate Charge to Minimize Switching Losses
- This is a Pb-Free Device

Applications

- Disk Drives
- DC-DC Converters
- Printers

MOSFET MAXIMUM RATINGS ($T_J = 25^\circ\text{C}$ unless otherwise stated)

Rating	Symbol	Value	Unit
Drain-to-Source Voltage	V_{DS}	-30	V
Gate-to-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current $R_{\theta JA}$ (Note 1)	I_D	$T_A = 25^\circ\text{C}$	-3.3
		$T_A = 70^\circ\text{C}$	-2.6
Power Dissipation $R_{\theta JA}$ (Note 1)	P_D	$T_A = 25^\circ\text{C}$	1.6
		$T_A = 70^\circ\text{C}$	
Continuous Drain Current $R_{\theta JA}$ (Note 2)	I_D	$T_A = 25^\circ\text{C}$	-2.3
		$T_A = 70^\circ\text{C}$	-1.8
Power Dissipation $R_{\theta JA}$ (Note 2)	P_D	$T_A = 25^\circ\text{C}$	0.77
		$T_A = 70^\circ\text{C}$	
Continuous Drain Current $R_{\theta JA}$ $t < 10$ s (Note 1)	I_D	$T_A = 25^\circ\text{C}$	-4.0
		$T_A = 70^\circ\text{C}$	-3.2
Power Dissipation $R_{\theta JA}$ $t < 10$ s (Note 1)	P_D	2.31	W
Pulsed Drain Current	I_{DM}	-10	A
	$T_A = 25^\circ\text{C}, t_p = 10 \mu\text{s}$		
Operating Junction and Storage Temperature	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$
Source Current (Body Diode)	I_S	-1.3	A
Lead Temperature for Soldering Purposes (1/8" from case for 10 s)	T_L	260	$^\circ\text{C}$

SCHOTTKY MAXIMUM RATINGS ($T_J = 25^\circ\text{C}$ unless otherwise stated)

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	20	V
DC Blocking Voltage	V_R	20	V
Average Rectified Forward Current, (Note 1)	I_F	Steady State	2.2
		$t < 10$ s	3.2



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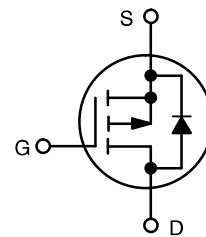
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P-CHANNEL MOSFET

$V_{(BR)DS}$	$R_{DS(on)}$ Max	I_D Max
-30 V	95 m Ω @ -10 V	-4.0 A
	165 m Ω @ -4.5 V	

SCHOTTKY DIODE

V_R Max	V_F Max	I_F Max
20 V	0.58 V	2.2 A

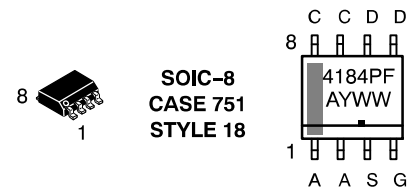


P-Channel MOSFET



Schottky Diode

MARKING DIAGRAM & PIN ASSIGNMENT



SOIC-8
CASE 751
STYLE 18

4184PF = Device Code
A = Assembly Location
Y = Year
WW = Work Week
▪ = Pb-Free Package

ORDERING INFORMATION

Device	Package	Shipping†
NTMD4184PFR2G	SOIC-8 (Pb-Free)	2500/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.