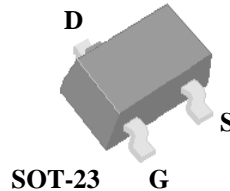


AP2318GEN-HF

- ▼ Capable of 2.5V Gate Drive
- ▼ Small Outline Package
- ▼ Surface Mount Device
- ▼ RoHS Compliant

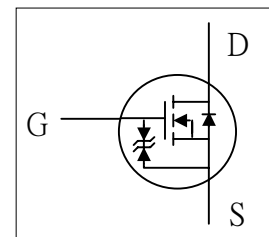


BV_{DSS}	30V
$R_{DS(ON)}$	1.5 Ω
I_D	500mA

Description

Advanced Power MOSFETs utilized advanced processing techniques to achieve the lowest possible on-resistance, extremely efficient and cost-effectiveness device.

The SOT-23 package is widely used for commercial-industrial applications.



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	± 16	V
$I_D@T_A=25^\circ\text{C}$	Continuous Drain Current ³ , V_{GS} @ 4V	0.5	A
$I_D@T_A=70^\circ\text{C}$	Continuous Drain Current ³ , V_{GS} @ 4V	0.4	A
I_{DM}	Pulsed Drain Current ¹	2	A
$P_D@T_A=25^\circ\text{C}$	Total Power Dissipation	0.7	W
	Linear Derating Factor	0.006	W/ $^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ\text{C}$

Thermal Data

Symbol	Parameter	Value	Unit
Rthj-a	Maximum Thermal Resistance, Junction-ambient ³	180	$^\circ\text{C}/\text{W}$

AP2318GEN-HF

Electrical Characteristics @ $T_j=25^{\circ}\text{C}$ (unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	30	-	-	V
$\Delta BV_{DSS}/\Delta T_j$	Breakdown Voltage Temperature Coefficient	Reference to $25^{\circ}\text{C}, I_D=1\text{mA}$	-	0.04	-	$V/^{\circ}\text{C}$
$R_{DS(ON)}$	Static Drain-Source On-Resistance ²	$V_{GS}=4V, I_D=500\text{mA}$	-	-	1.5	Ω
		$V_{GS}=2.5V, I_D=200\text{mA}$	-	-	2.5	Ω
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	0.4	-	1.3	V
g_{fs}	Forward Transconductance	$V_{DS}=4V, I_D=500\text{mA}$	-	725	-	mS
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=30V, V_{GS}=0V$	-	-	1	μA
	Drain-Source Leakage Current ($T_j=70^{\circ}\text{C}$)	$V_{DS}=24V, V_{GS}=0V$	-	-	25	μA
I_{GSS}	Gate-Source Leakage	$V_{GS}=\pm 16V, V_{DS}=0V$	-	-	± 60	μA
Q_g	Total Gate Charge ²	$I_D=1A$	-	1.1	1.8	nC
Q_{gs}	Gate-Source Charge	$V_{DS}=25V$	-	0.4	-	nC
Q_{gd}	Gate-Drain ("Miller") Charge	$V_{GS}=4.5V$	-	0.4	-	nC
$t_{d(on)}$	Turn-on Delay Time ²	$V_{DS}=15V$	-	17	-	ns
t_r	Rise Time	$I_D=1A$	-	44	-	ns
$t_{d(off)}$	Turn-off Delay Time	$R_G=3.3\Omega, V_{GS}=5V$	-	45	-	ns
t_f	Fall Time	$R_D=15\Omega$	-	55	-	ns
C_{iss}	Input Capacitance	$V_{GS}=0V$	-	30	48	pF
C_{oss}	Output Capacitance	$V_{DS}=25V$	-	12	-	pF
C_{rss}	Reverse Transfer Capacitance	$f=1.0\text{MHz}$	-	11	-	pF

Source-Drain Diode

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V_{SD}	Forward On Voltage ²	$I_S=0.5A, V_{GS}=0V$	-	-	1.3	V

Notes:

1. Pulse width limited by Max. junction temperature.
2. Pulse test
3. Surface mounted on 1 in² copper pad of FR4 board ; $400^{\circ}\text{C}/\text{W}$ when mounted on min. copper pad.