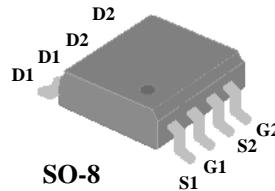




- ▼ Low On-Resistance
- ▼ Capable of 2.5V Gate Drive
- ▼ Dual N MOSFET Package
- ▼ RoHS Compliant & Halogen-Free

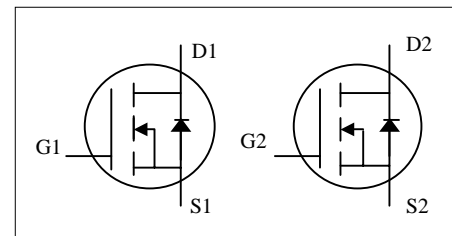


$BV_{DSS}$	20V
$R_{DS(ON)}$	14m $\Omega$
$I_D$	10A

### Description

Advanced Power MOSFETs from APEC provide the designer with the best combination of fast switching, ruggedized device design, ultra low on-resistance and cost-effectiveness.

The SO-8 package is widely preferred for commercial-industrial surface mount applications and suited for low voltage applications such as DC/DC converters.



### Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
$V_{DS}$	Drain-Source Voltage	20	V
$V_{GS}$	Gate-Source Voltage	$\pm 12$	V
$I_D@T_A=25^\circ\text{C}$	Continuous Drain Current <sup>3</sup>	10	A
$I_D@T_A=70^\circ\text{C}$	Continuous Drain Current <sup>3</sup>	8	A
$I_{DM}$	Pulsed Drain Current <sup>1</sup>	30	A
$P_D@T_A=25^\circ\text{C}$	Total Power Dissipation	2	W
$T_{STG}$	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
$R_{thj-a}$	Maximum Thermal Resistance, Junction-ambient <sup>3</sup>	62.5	$^\circ\text{C}/\text{W}$



# AP4224LGM-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	$V_{GS}=0V, I_D=250\mu A$	20	-	-	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance <sup>2</sup>	$V_{GS}=4.5V, I_D=10A$	-	-	14	m $\Omega$
		$V_{GS}=2.5V, I_D=7A$	-	-	23	m $\Omega$
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	0.3	-	1.2	V
$g_{fs}$	Forward Transconductance	$V_{DS}=10V, I_D=10A$	-	16	-	S
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=16V, V_{GS}=0V$	-	-	10	$\mu A$
$I_{GSS}$	Gate-Source Leakage	$V_{GS}=\pm 12V, V_{DS}=0V$	-	-	$\pm 100$	nA
$Q_g$	Total Gate Charge	$I_D=11A$	-	10	-	nC
$Q_{gs}$	Gate-Source Charge	$V_{DS}=15V$	-	3	-	nC
$Q_{gd}$	Gate-Drain ("Miller") Charge	$V_{GS}=4.5V$	-	4.5	-	nC
$t_{d(on)}$	Turn-on Delay Time	$V_{DS}=15V$	-	9	-	ns
$t_r$	Rise Time	$I_D=1A$	-	5	-	ns
$t_{d(off)}$	Turn-off Delay Time	$R_G=3.3\Omega$	-	21	-	ns
$t_f$	Fall Time	$V_{GS}=10V$	-	4.5	-	ns
$C_{iss}$	Input Capacitance	$V_{GS}=0V$	-	1100	-	pF
$C_{oss}$	Output Capacitance	$V_{DS}=15V$	-	140	-	pF
$C_{rss}$	Reverse Transfer Capacitance	$f=1.0\text{MHz}$	-	100	-	pF
$R_g$	Gate Resistance	$f=1.0\text{MHz}$	-	1.3	-	$\Omega$

## Source-Drain Diode

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
$V_{SD}$	Forward On Voltage <sup>2</sup>	$I_S=1.7A, V_{GS}=0V$	-	-	1.2	V
$t_{rr}$	Reverse Recovery Time	$I_S=11A, V_{GS}=0V,$	-	17	-	ns
$Q_{rr}$	Reverse Recovery Charge	$dI/dt=100A/\mu s$	-	8	-	nC

### Notes:

1. Pulse width limited by Max. junction temperature.
2. Pulse test
3. Surface mounted on 1 in<sup>2</sup> copper pad of FR4 board ; 135 °C/W when mounted on min. copper pad.

THIS PRODUCT IS SENSITIVE TO ELECTROSTATIC DISCHARGE, PLEASE HANDLE WITH CAUTION.

USE OF THIS PRODUCT AS A CRITICAL COMPONENT IN LIFE SUPPORT OR OTHER SIMILAR SYSTEMS IS NOT AUTHORIZED.

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