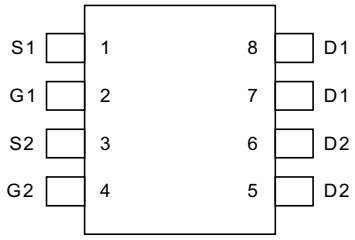
Dual P-Channel Enhancement Mode MOSFET

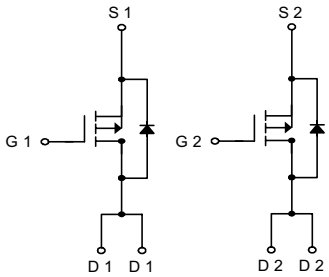
Features

- -30V/-4.9A, $R_{DS(ON)}$ = 53mΩ(typ.) @ V_{GS} = -10V
  $R_{DS(ON)}$ = 80mΩ(typ.) @ V_{GS} = -4.5V
- Super High Density Cell Design
- Reliable and Rugged
- SO-8 Package

Pin Description



SO – 8



P-Channel MOSFET

Applications

- Power Management in Notebook Computer, Portable Equipment and Battery Powered Systems

Ordering and Marking Information

APM4953 □□-□□

- Handling Code
- Temp. Range
- Package Code

Package Code
K : SO-8
Operation Junction Temp. Range
C : -55 to 150°C
Handling Code
TU : Tube
TR : Tape & Reel

APM4953 K : APM4953 XXXXX

XXXXX - Date Code

Absolute Maximum Ratings (T$_A$ = 25°C unless otherwise noted)

Symbol	Parameter		Rating	Unit
V_{DSS}	Drain-Source Voltage		-30	V
V_{GSS}	Gate-Source Voltage		±25	
I_D*	Maximum Drain Current – Continuous	T_A = 25°C	-4.9	A
I_{DM}	Maximum Drain Current – Pulsed		-30	

* Surface Mounted on FR4 Board, t ≤ 10 sec.

Absolute Maximum Ratings (Cont.) (T_A = 25°C unless otherwise noted)

Symbol	Parameter		Rating	Unit
P_D	Maximum Power Dissipation	T_A = 25°C	2.5	W
		T_A = 100°C	1.0	
T_J	Maximum Junction Temperature		150	°C
T_{STG}	Storage Temperature Range		-55 to 150	
$R_{\theta JA}$*	Thermal Resistance - Junction to Ambient		50	°C/W

Electrical Characteristics (T_A=25°C unless otherwise noted)

Symbol	Parameter	Test Condition	APM4953			Unit
			Min.	Typ[a].	Max.	
Static						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V , I_{DS}=-250μA	-30			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=-24V , V_{GS}=0V			-1	μA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS} , I_{DS}=-250μA	-1	-1.5	-2	V
I_{GSS}	Gate Leakage Current	V_{GS}=±25V , V_{DS}=0V			±100	nA
$R_{DS(ON)}$	Drain-Source On-state Resistance[b]	V_{GS}=-10V , I_{DS}=-4.9A		53	60	mΩ
		V_{GS}=-4.5V , I_{DS}=-3.6A		80	95	
V_{SD}	Diode Forward Voltage[b]	I_{SD}=-1.7A , V_{GS}=0V		-0.7	-1.3	V
Dynamic[a]						
Q_g	Total Gate Charge	V_{DS}=-15V , I_{GS}=-10V		22.3	29	nC
Q_{gs}	Gate-Source Charge	I_D=-4.6A		4.65		
Q_{gd}	Gate-Drain Charge			2		
$t_{d(ON)}$	Turn-on Delay Time	V_{DD}=-15V , I_D=-2A , V_{GEN}=-10V , R_G=6Ω R_L=7.5Ω		10	18	ns
T_r	Turn-on Rise Time			15	20	
$t_{d(OFF)}$	Turn-off Delay Time			22	38	
T_f	Turn-off Fall Time			15	25	
C_{iss}	Input Capacitance	V_{GS}=0V V_{DS}=-25V Frequency=1.0MHz		1260		pF
C_{oss}	Output Capacitance			340		
C_{rss}	Reverse Transfer Capacitance			220		

Notes

[a] : Pulse test ; pulse width ≤300μs, duty cycle ≤ 2%

[b] : Guaranteed by design, not subject to production testing