

5 é / Descriptions

SOT23-6 .> // x P ?ú 3 MOS « | • 'ož
P- CHANNEL MOSFET in a SOT23-6 Plastic Package.

α a / Features

z - * Š k • ¼ ž • ½ k z - * 9 k ... ` AEC-Q101 ö Ö ä U ´ Å } L k —)í D }ož
Ultra Low on-resistance. fast switching.Low on voltage, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

Đ ÷ / Applications

6 = 3 • ħ ú • ¼ k á V ñ • } Lož
PWM application & Load switch, Meet the stringent requirements of automotive applications.

Ã w] Ô • / Equivalent Circuit

• Ů - æ / Pinning

PIN1 y D PIN 2 y D PIN 3 y G PIN 4 y S PIN 5 y D PIN 6 y D

, M V / Marking

Marking	Q5P06 ****
---------	---------------

Table 1 Absolute Maximum Ratings(Ta=25℃ ;)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V _{DSS}	-60	V
Gate-Body Leakage Voltage	V _{GSS}	±20	V
Drain Current - Continuous	I _D	-5	A
Power Dissipation (Surface Mounted on FR4 Board, t ₀ 10 sec.)	P _D	1.5	W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 ~ 150	
Maximum Junction-to-Ambient	t ₀ 10s	118.6	°C/W
Maximum Junction-to-Ambient	Steady-State		
Maximum Junction-to-Lead	Steady-State	83.3	°C/W

Table 2 Electrical Characteristics(Ta=25℃ ;)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{BR(DSS)}	V _{GS} =0V I _D =-250 A	-60	-63		V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 A	-1	-1.5	-2.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V I _D =-2A		84	100	mΩ
		V _{GS} =-4.5V I _D =-1A		103	125	mΩ
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-60V V _{GS} =0V			-1.0	A
Gate-Body Leakage.	I _{GSS}	V _{GS} =-20V			-100	nA
		V _{GS} =20V			100	nA
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =0V I _S =-1A T _J =25			-1.2	V
Input Capacitance	C _{iss}	V _{DS} =-25V V _{GS} =0V f=1.0MHz				
Output Capacitance	C _{oss}			90		
Reverse Transfer Capacitance	C _{rss}					
Total Gate Charge	Q _g (-10V)	V _{DS} =-30V V _{GS} =-10.0V I _D =-5A		25		nC
Total Gate Charge	Q _g (-4.5V)			9.6		
Gate-to-Source Charge	Q _{gs}			3		
Gate-to-Drain Charge	Q _{gd}			7		
Turn-On Delay Time	t _{d(on)}	V _{DD} =-30V V _{GS} =-10V R _L =7.5Ω R _G =3Ω		8		ns
Turn-On Rise Time	t _r			4		
Turn-Off Delay Time	t _{d(off)}			32		
Turn-Off Fall Time	t _f			7		

Ô ? d • Ž ¢ / Electrical Characteristic Curve

Ô ? d • Ž ¢ / Electrical Characteristic Curve

Ø □ =) ¢ / Package Dimensions

, M y f / Marking Instructions

O5P06

^a ¢ y

7 y V ñ —) í D } ö œ

5P06: ° Z W A

****: ÿ D Z W A k š ÿ D Z J

Note:

Q: Automobile halogen-free product Code

5P06 y Product Type

****: Lot No. Code, code change with Lot No

