5 é / Descriptions

SOT23-6 .> / / x P ?ú 3 MOS « | • ’ož

P- CHANNEL MOSFET in a SOT23-6 Plastic Package.

¤ ª / Features

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Ultra Low on-resistance. fast switching.Low on voltage, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

Đ ÷ / Applications

6 = 3 • ¿ ú • ¼ k á V ñ • } Lož

PWM application & Load switch, Meet the stringent requirements of automotive applications.

Ã W] Ô · / Equivalent Circuit

• Û - 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 ****

Ã a ? d / Absolute Maximum Ratings(Ta=25 ;)

@ *f* Parameter		… Z Symbol	*f* › Rating	% y 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	©JA	118.6	/W
Maximum Junction-to-Ambient	Steady-State		161.6	/W
Maximum Junction-to-Lead	Steady-State	©JL	83.3	/W

@ f … Z … % y
Parameter Symbol Test Conditions min typ max Unit

Ô4ì × ? d / Electrical Characteristics(Ta=25 ;)

Drain–Source Breakdown Voltage	$V_{BR)DSS}$	V_{GS}=0V I =-250 A	-60	-63		V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I =-250 A	-1	-1.5	-2.5	V
Static Drain–Source On–Resistance	R $_{DS(on)}$ V	$_{GS}$=-10V I =-2A		84	100	m
		V_{GS}=-4.5V I =-1A		103	125	m
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				885
Output Capacitance	C_{oss}			90		
Reverse Transfer Capacitance	C_{rss}					64
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 $_L$=7.5 R_G=3		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 ƒ / Marking Instructions

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5P06: º 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