

5 é / Descriptions

SOT23-6 .> // x P ?ú 3 MOS « | • 'ož

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

α^a / Features

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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

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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 ****
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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	θ _{JA}	118.6	/W
Maximum Junction-to-Ambient	Steady-State	161.6	/W
Maximum Junction-to-Lead	θ _{JL}	83.3	/W

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 =7.5 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			

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, M y f / Marking Instructions

Q5P06

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5P06: ° Z W A

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Note:

Q: Automobile halogen-free product Code

5P06 y Product Type

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

