

Rev.A May.-2023

SOT-23 P

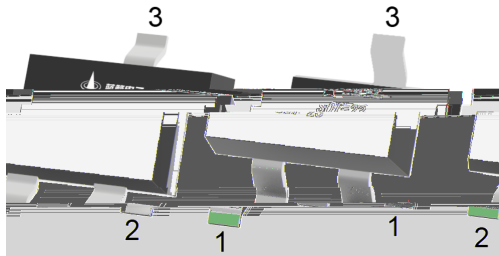
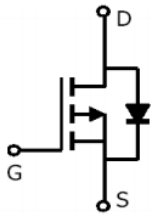
P- CHANNEL MOSFET in a SOT-23 Plastic Package.

AEC-Q101

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

PWM

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



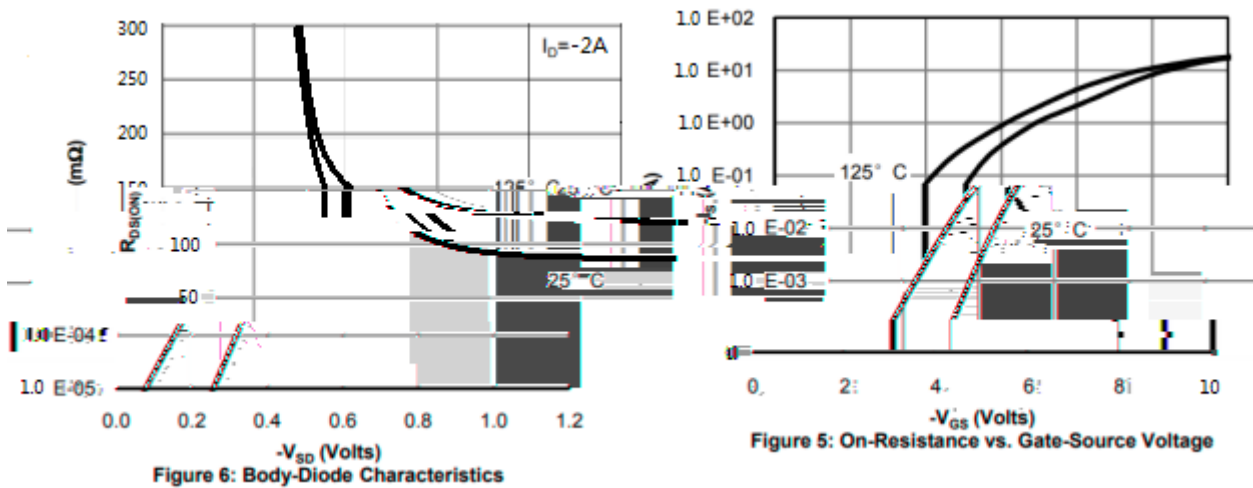
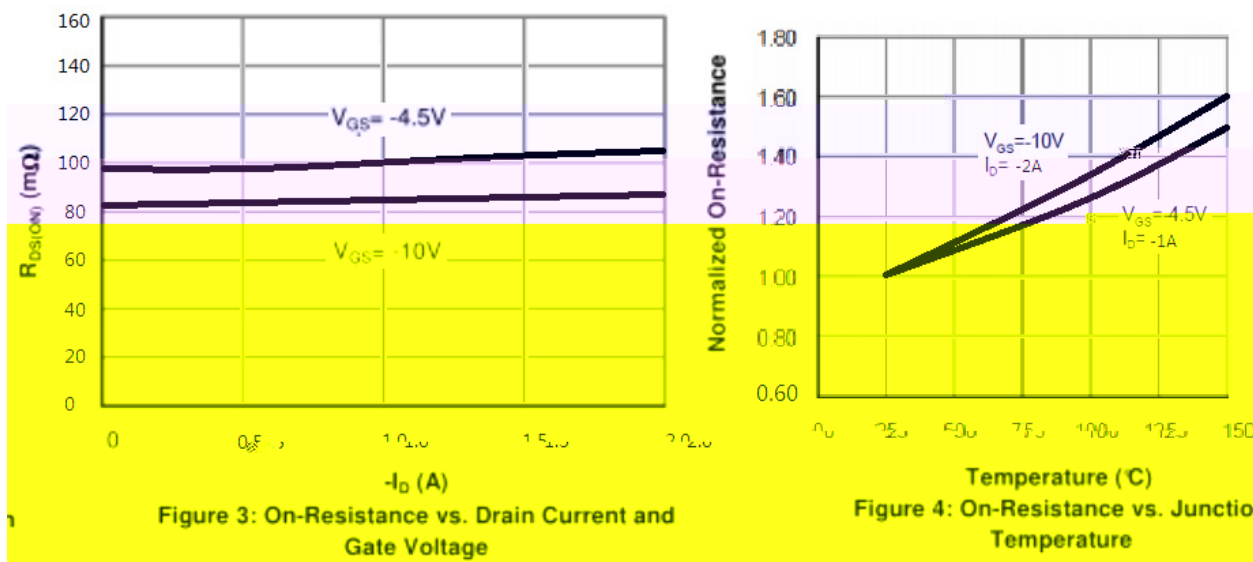
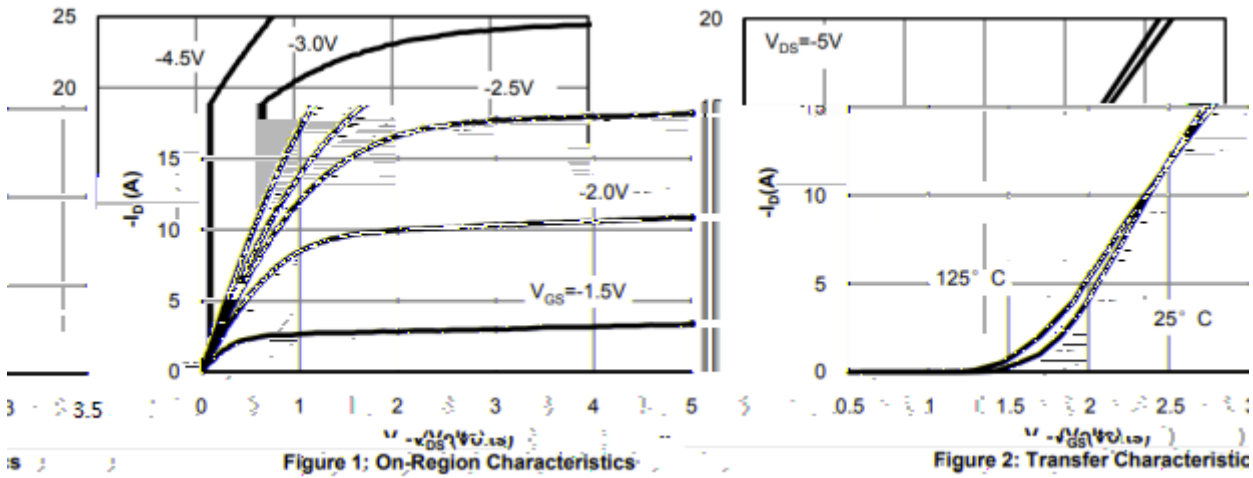
PIN1 G PIN 2 S PIN 3 D

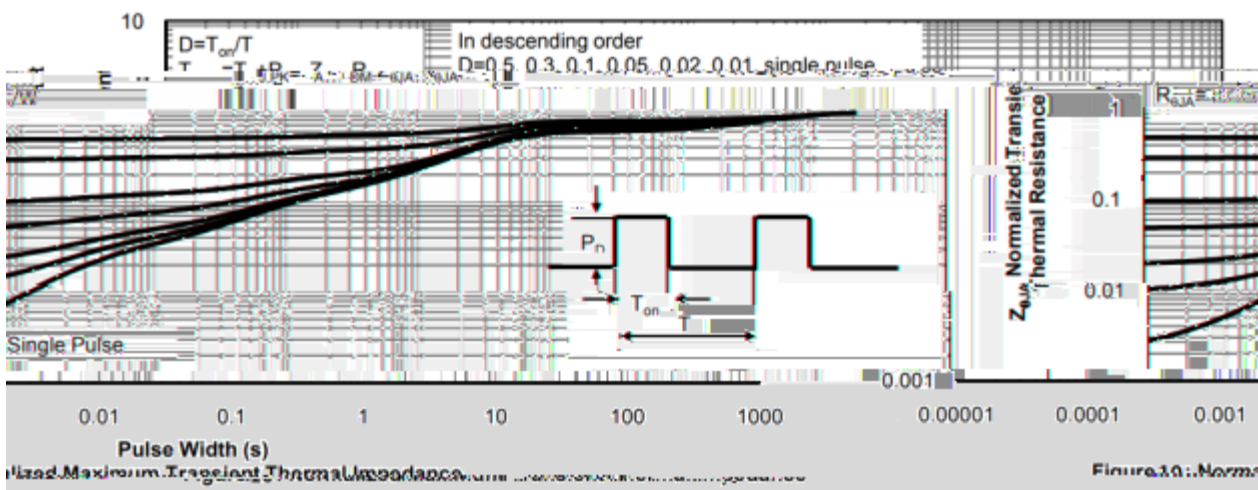
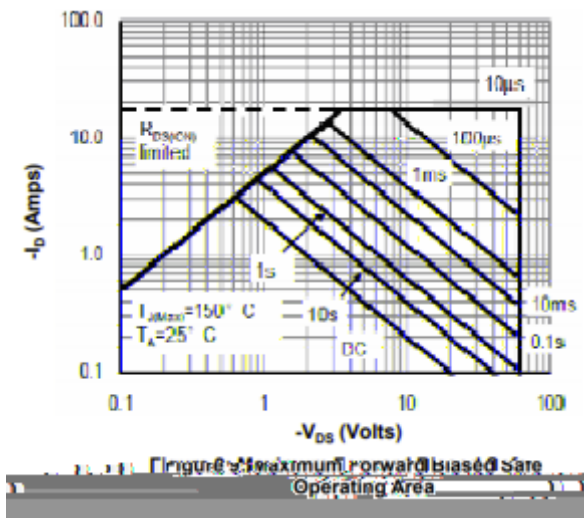
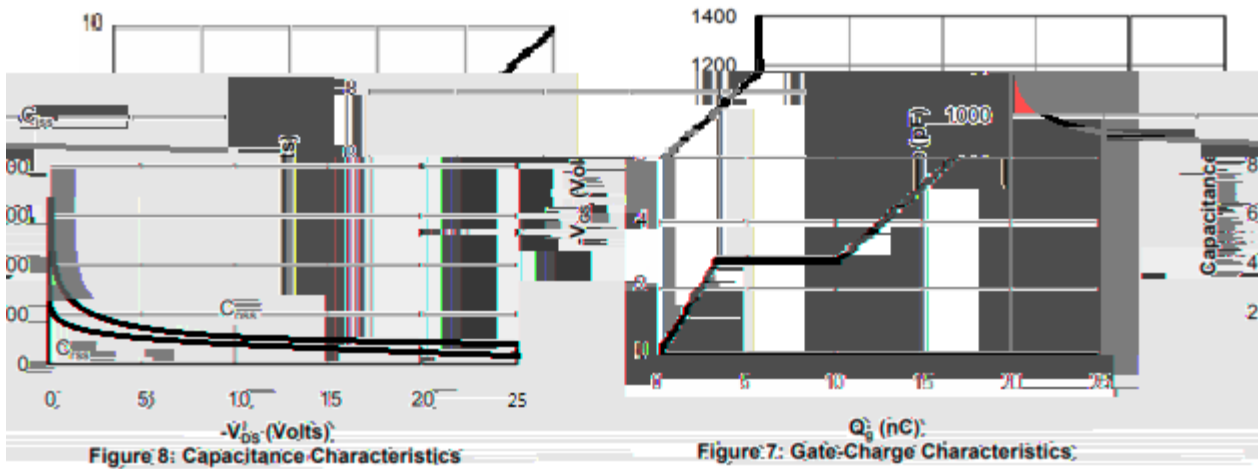
Marking

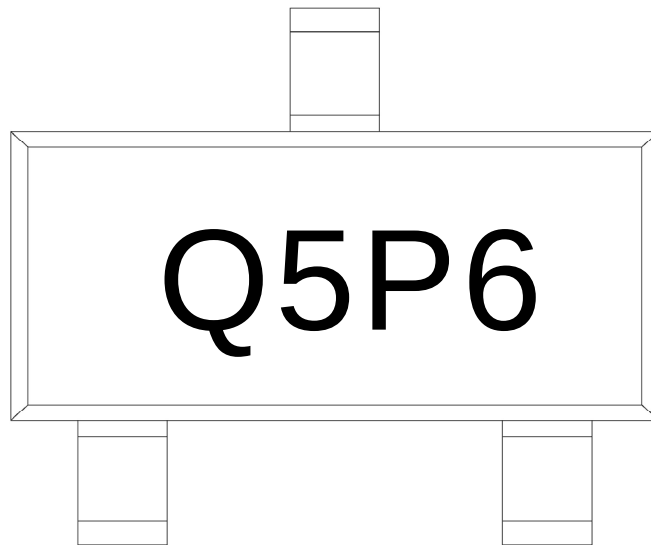
Q5P6

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
Pulsed Drain Current		I_{DM}	-18	A
Power Dissipation (Surface Mounted on FR4 Board, $t \leq 10$ sec.)		P_D	1.5	W
Operating and Storage Temperature Range		T_J, T_{STG}	-55~150	
Maximum Junction-to-Ambient	$t \leq 10s$	$R_{\theta JA}$	118.6	$^{\circ}C/W$
Maximum Junction-to-Ambient	Steady-State		161.6	$^{\circ}C/W$
Maximum Junction-to-Lead	Steady-State	$R_{\theta JL}$	83.3	$^{\circ}C/W$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V$ $I_D=-250\mu A$	-60	-63		V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-1	-1.5	-2.5	V
Static Drain–Source On–Resistance	$R_{DS(on)}$	$V_{GS}=-10V$ $I_D=-2A$		84	100	$m\Omega$
		$V_{GS}=-4.5V$ $I_D=-1A$		103	125	$m\Omega$
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60V$ $V_{GS}=0V$			-1.0	μA
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		pF
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	$t_{d(on)}$	$V_{DD}=-30V$ $V_{GS}=-10V$ $R_L=7.5\Omega$ $R_G=3\Omega$		8		ns
Turn–On Rise Time	t_r			4		
Turn–Off Delay Time	$t_{d(off)}$			32		
Turn–Off Fall Time	t_f			7		







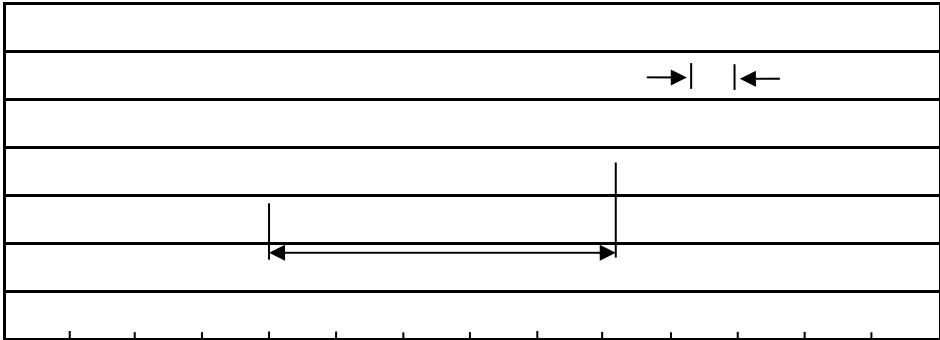
Q

5P6

Note:

Q: Automobile halogen-free product Code

5P6: Product Type



Note:

- 1

150 200

60 120sec;

1.Preheating:150~200 , Time:60~120sec.
- 2

255±5

5±0.5sec;

2.Peak Temp.:255±5 , Duration:5±0.5sec.
- 3

2 10

/sec.

3.Cooling Speed: 2~10 /sec.

260±5

10±1 sec.

Temp.:260±5

Time:10±1 sec

/ REEL

Package Type	Units					Dimension (unit mm ³)		
SOT-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205