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.

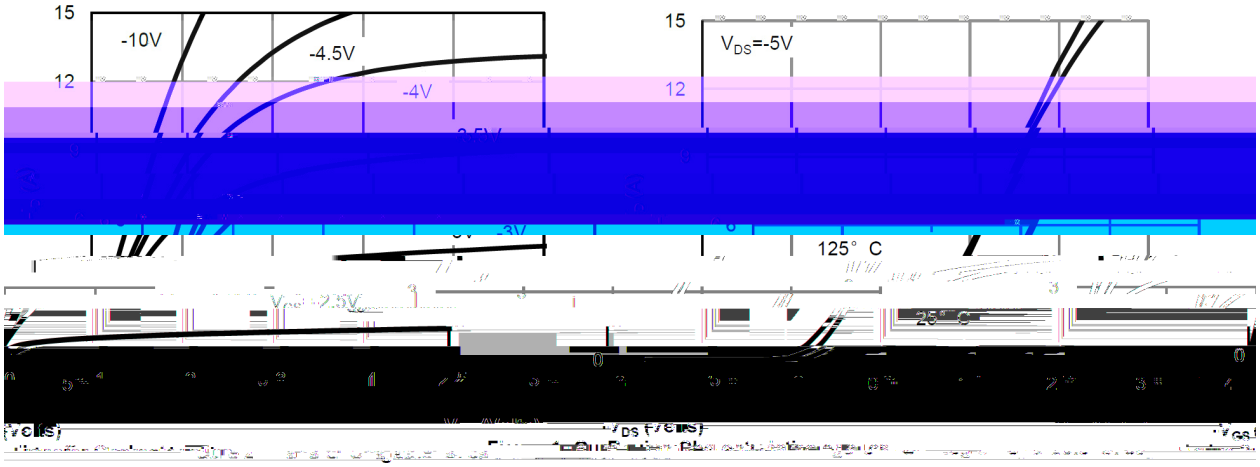
/ Absolute Maximum Ratings(Ta=25)

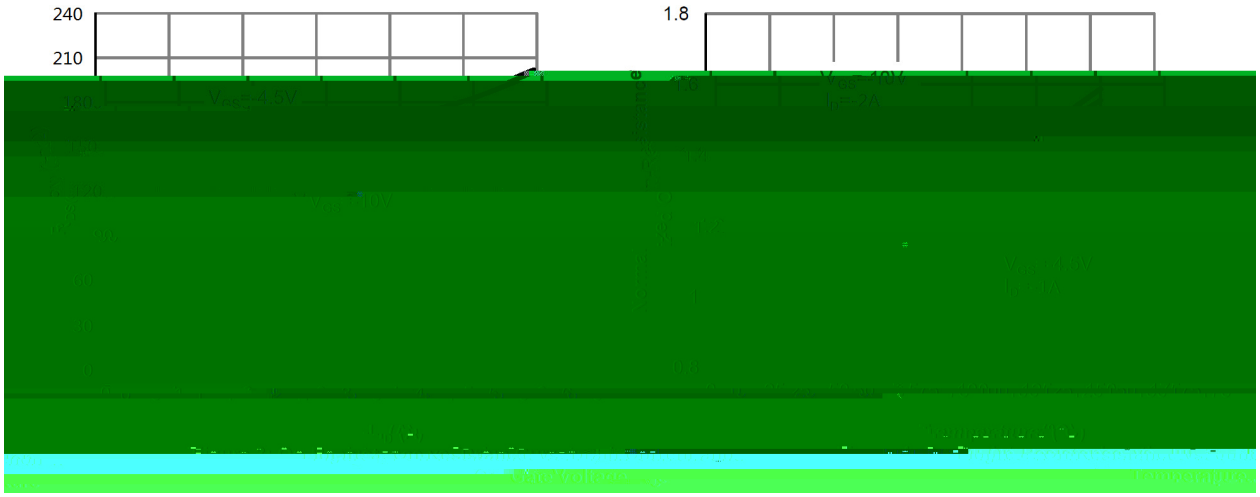
Parameter		Symbol	Rating	Unit
Drain–Source Voltage		V_{DSS}	-60	V
Gate–Body Leakage Voltage		V_{GSS}	±20	V
Drain Current – Continuous		I_D	-2.3	A
Pulsed Drain Current		I_{DM}	-9	A
Power Dissipation		P_D	1.25	W
Operating and Storage Temperature Range		T_J,T_{STG}	-55 150	
Maximum Junction-to-Ambient	t ≤ 10s	$R_{\theta JA}$	72	/W
Maximum Junction-to-Ambient	Steady-State		100	/W
Maximum Junction-to-Lead	Steady-State	$R_{\theta JL}$	64	/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=-250μA	-60	-75		V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=-250μA	-1	-1.9	-2.5	V
Static Drain–Source On–Resistance	$R_{DS(on)}$	V_{GS}=-10V I_D=-2A		135	150	mΩ
		V_{GS}=-4.5V I_D=-1A		160	200	mΩ
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-60V V_{GS}=0V			-1.0	μA
Gate-Body leakage current	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±100	nA
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=-1A T_J=25			-1.2	V
Gate resistance	R_g	f=1MHz		6.5		Ω
Input Capacitance	C_{iss}	V_{DS}=-25V V_{GS}=0V f=1.0MHz		800		pF
Output Capacitance	C_{oss}			45		
Reverse Transfer Capacitance	C_{rss}			35		
Total Gate Charge	$Q_{g(-10V)}$	V_{DS}=-10V V_{GS}=-10.0V I_D=-2A		12.3		nC
Total Gate Charge	$Q_{g(-4.5V)}$			6.3		
Gate-to-Source Charge	Q_{gs}			1.6		
Gate-to-Drain Charge	Q_{gd}			2.4		
Turn–On Delay Time	$t_{d(on)}$	V_{DS}=-10V V_{GS}=-10V R_L=5.4Ω R_{GEN}=3Ω		12		ns
Turn–On Rise Time	t_r			20		
Turn–Off Delay Time	$t_{d(off)}$			20		
Turn–Off Fall Time	t_f			25		

/ Electrical Characteristic Curve





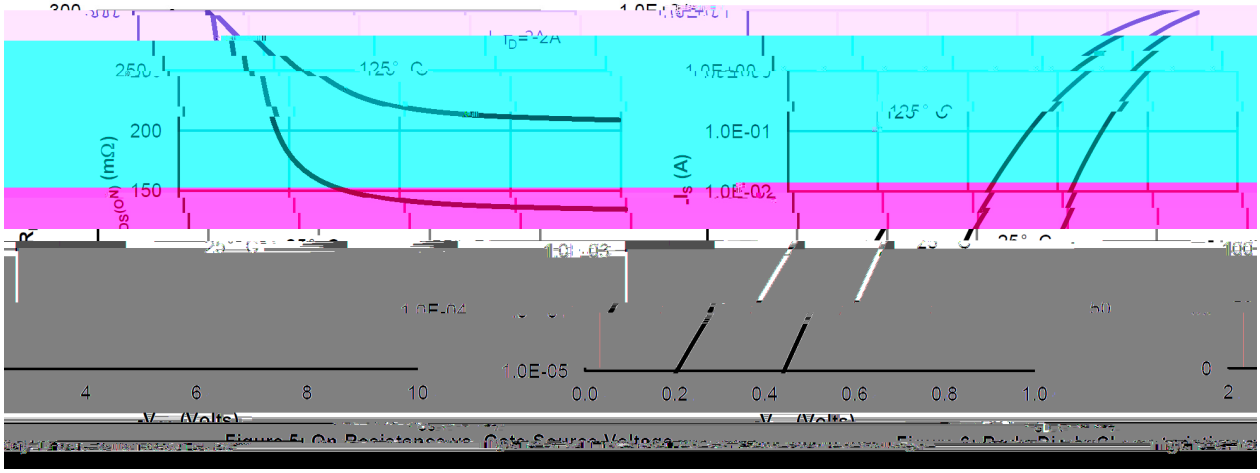
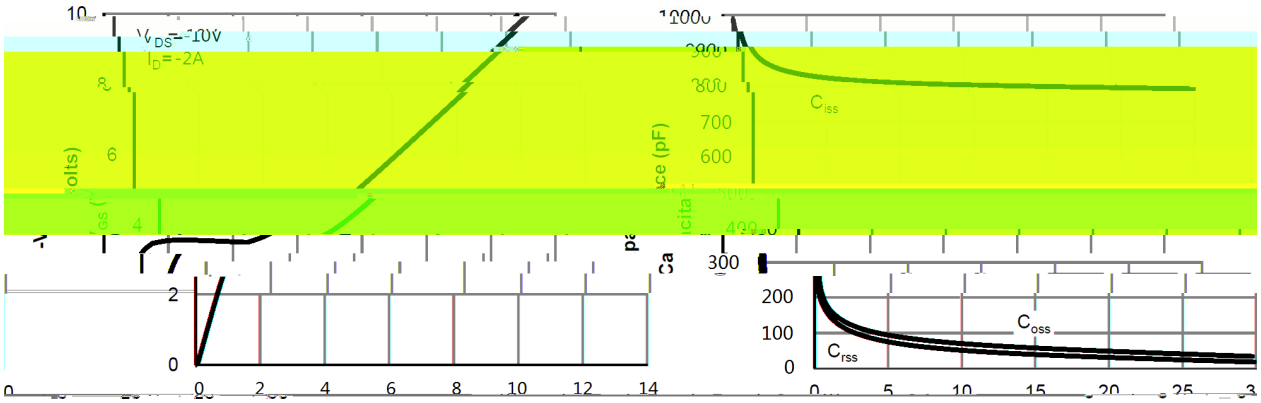


Figure 5: On-Resistance vs. Gate-Source Voltage

/ Electrical Characteristic Curve



V_{DS} (Volts)
acitance Characteristics

Q_g (nC)
Figure 7: Gate-Charge Characteristics

Figure 8: Cap

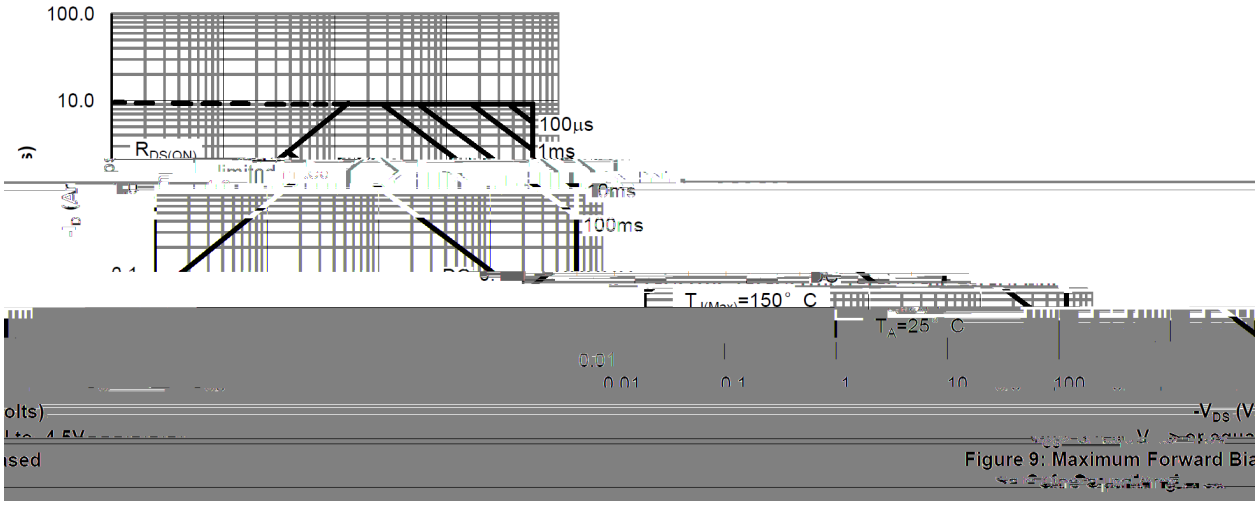


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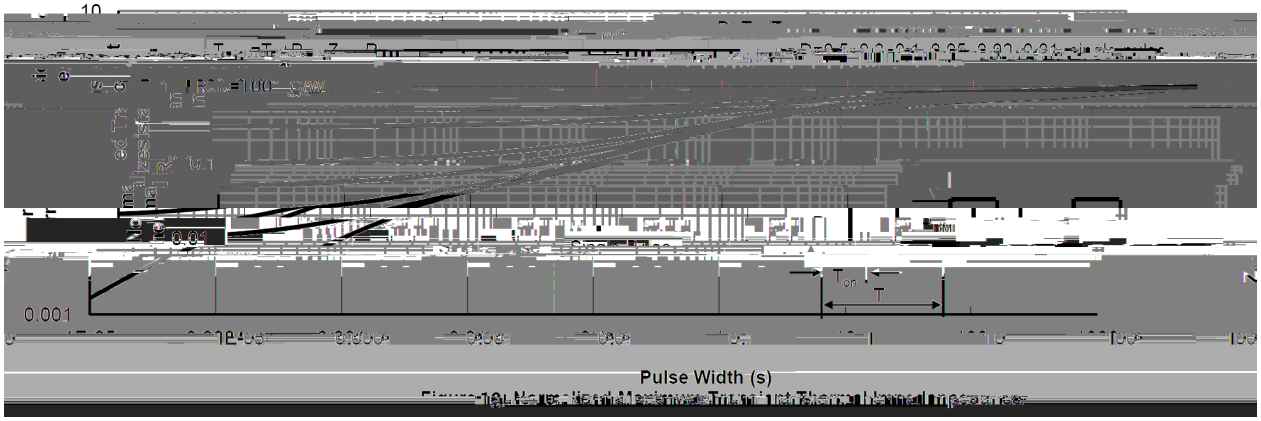
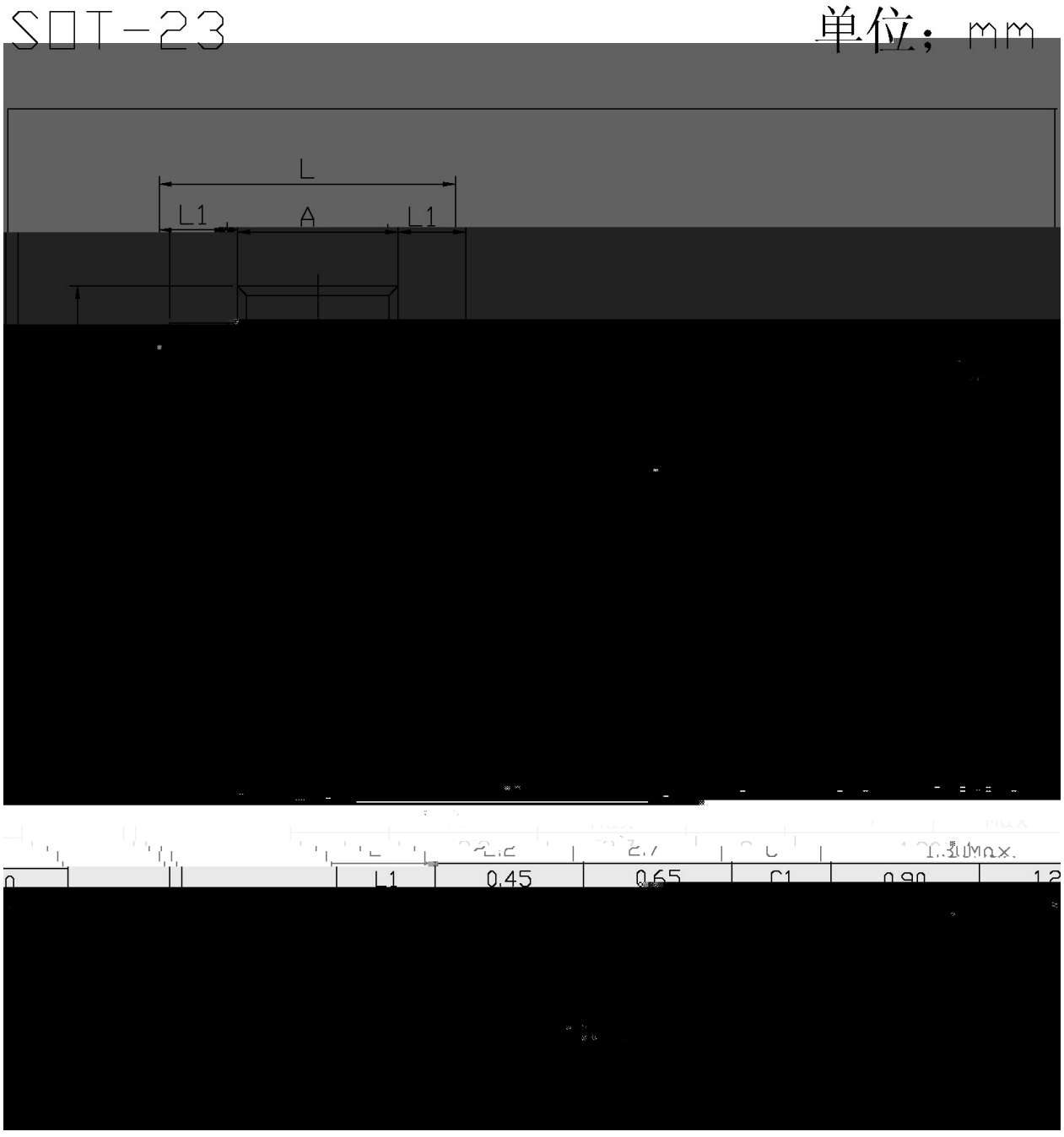
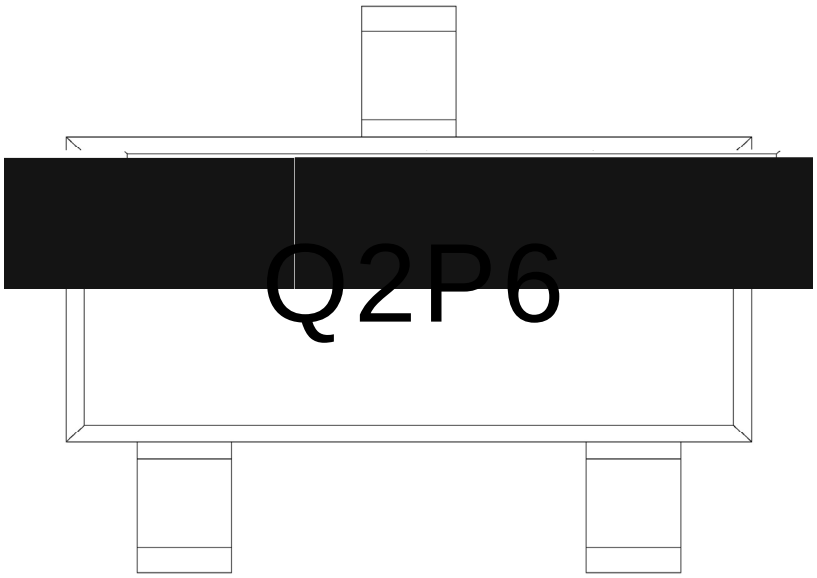
Figure 9: Maximum Forward Bia



/ Package Dimensions



/ Marking Instructions



Q

2P6

Note:

Q: Automobile halogen-free product Code

2P6: Product Type Code