

/ Descriptions

SOT-23 P MOS

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

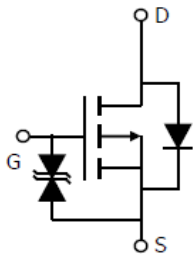
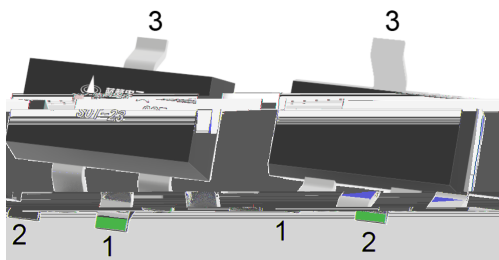
/ Features $V_{DS} = -20V$ $I_D = -4.0A$ $R_{DS(on)} @ -4.5V \leq 42m\Omega$, (Typ. $32m\Omega$) $R_{DS(on)} @ -2.5V \leq 55m\Omega$, (Typ. $43m\Omega$)

ESD Protected

HF Product.

/ Applications

Load switch Battery protection.

/ Equivalent Circuit**/ Pinning**

PIN1 G

PIN 2 S

PIN 3 D

/ Marking

Marking	.3415E
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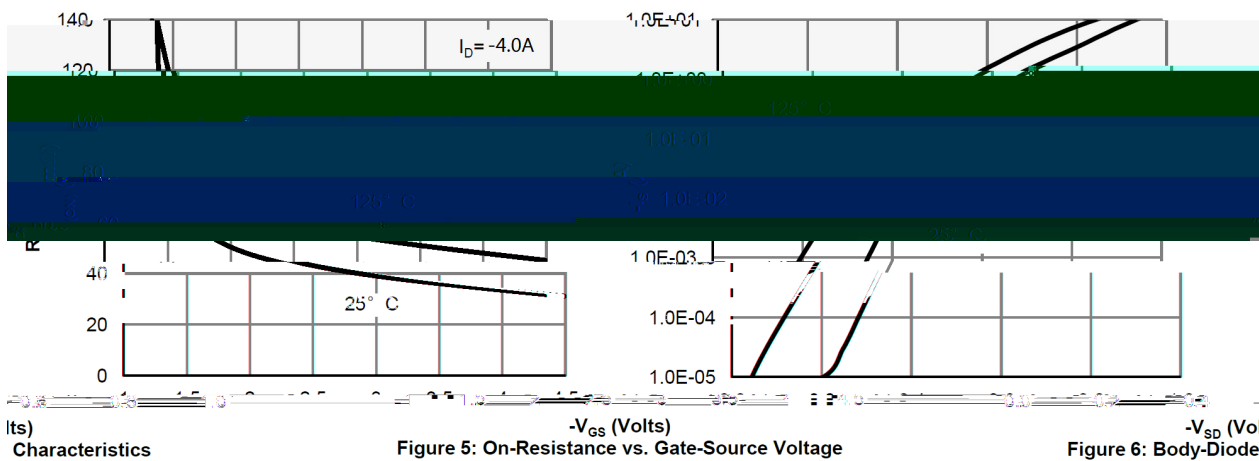
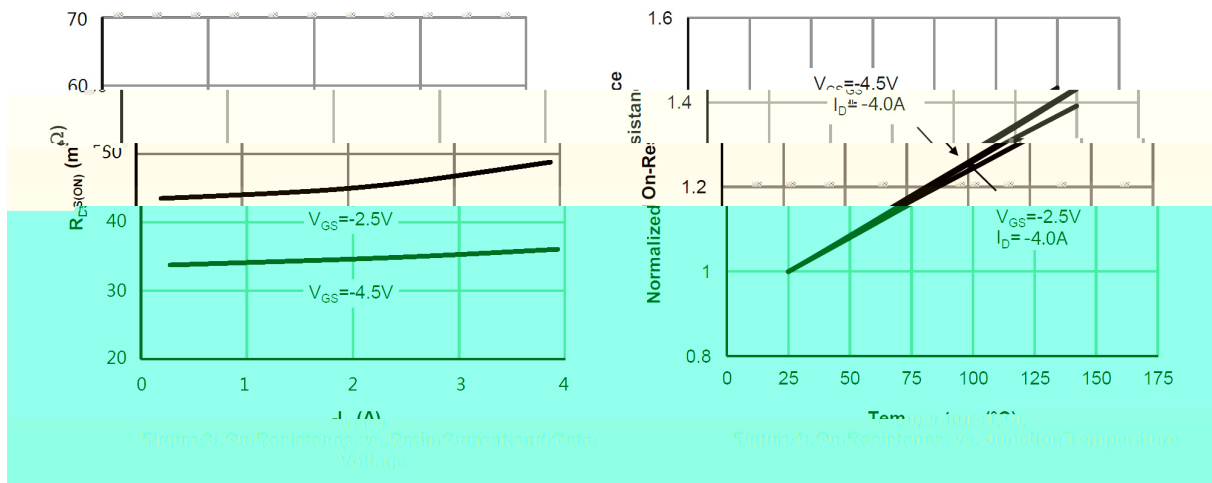
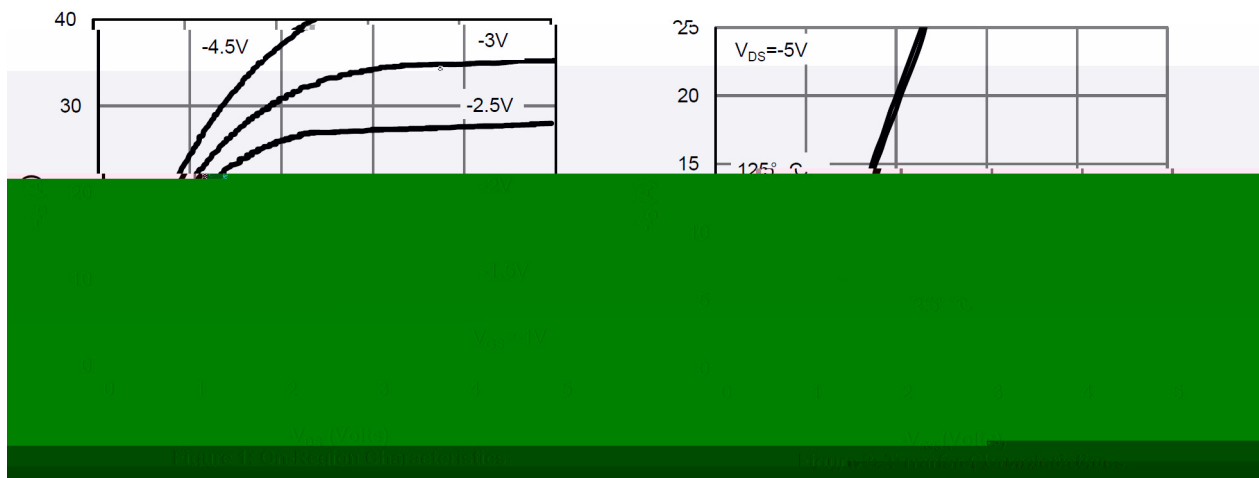
/ Absolute Maximum Ratings($T_A=25$)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 10	V
Drain Current-Continuous	I_D	-4.0	A
Drain Current-Continuous($T_A=70^\circ\text{C}$)	I_D	-3.5	A
Drain Current-Pulsed	I_{DM}	-20	A
Maximum Power Dissipation	P_D	1.2	W
Maximum Power Dissipation($T_A=70^\circ\text{C}$)	P_D	0.9	W
Operating Junction Temperature Range and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	105	$^\circ\text{C/W}$

/ Electrical Characteristics($T_A=25$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$B_{V_{DS}}$	$V_{GS}=0V$ $I_D=-250\mu A$	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20V$ $V_{GS}=0V$			-1	μA
Gate-Body Leakage	I_{GSS}	$V_{GS}=\pm 10V$ $V_{DS}=0V$			± 25	μA
Gate Threshold Voltage	V_{TH}	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-0.45		-0.9	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS}=-4.5V$ $I_D=-4.0A$		32	42	$m\Omega$
		$V_{GS}=-2.5V$ $I_D=-4.0A$		43	55	
Input Capacitance	C_{iss}	$V_{DS}=-10V$ $V_{GS}=0V$ $f=1MHz$		1420		pF
Output Capacitance	C_{oss}			210		
Reverse Transfer Capacitance	C_{rss}			190		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=-10V$ $V_{GS}=-4.5V$ $R_{GEN}=3\Omega$ $R_L=2.5\Omega$		9.5		ns
Rise Time	t_r			17		
Turn-Off Delay Time	$t_{d(off)}$			94		
Fall Time	t_f			35		
Total Gate Charge	Q_g	$V_{DS}=-10V$ $I_{DS}=-4A$ $V_{GS}=-4.5V$		17.2		nC
Gate-Source Charge	Q_{gs}			1.3		
Gate-Drain Charge	Q_{gd}			4.5		
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_{DS}=-2.2A$			-1.0	V
Reverse Recovery Time	t_{rr}	$I_F=-4A$, $dI/dt=100A/\mu s$		31		ns
Reverse Recovery Charge	Q_{rr}	$I_F=-4A$, $dI/dt=100A/\mu s$		13.8		nC

/ Electrical Characteristic Curve



Its)
Characteristics

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

Figure 6: Body-Diode

/ Electrical Characteristic Curve

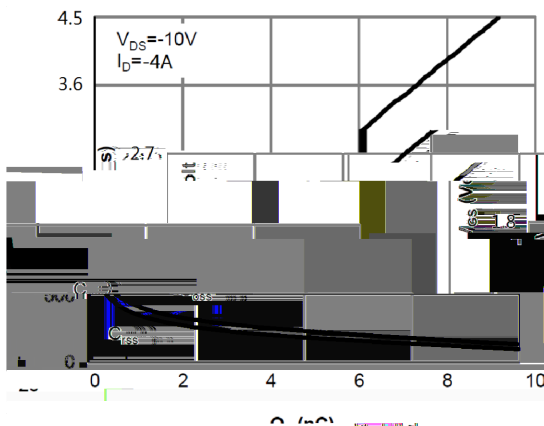


Figure 7: Gate Charge Characteristics

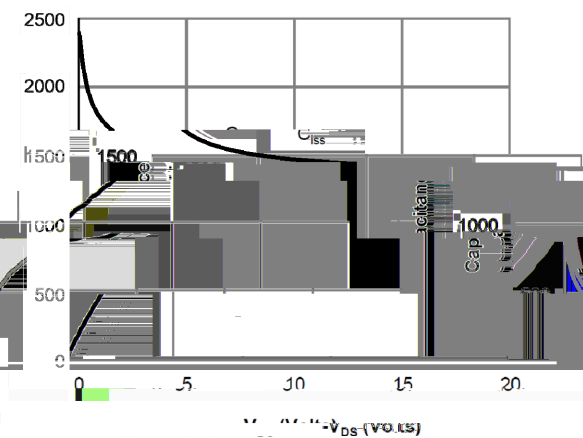


Figure 8: Capacitance Characteristics

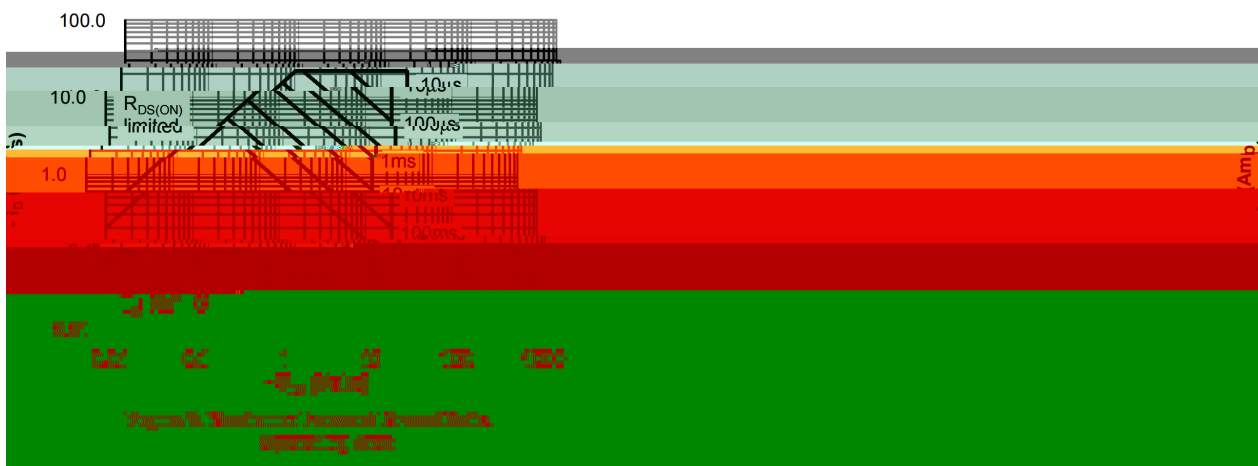


Figure 9: Maximum Junction Temperature

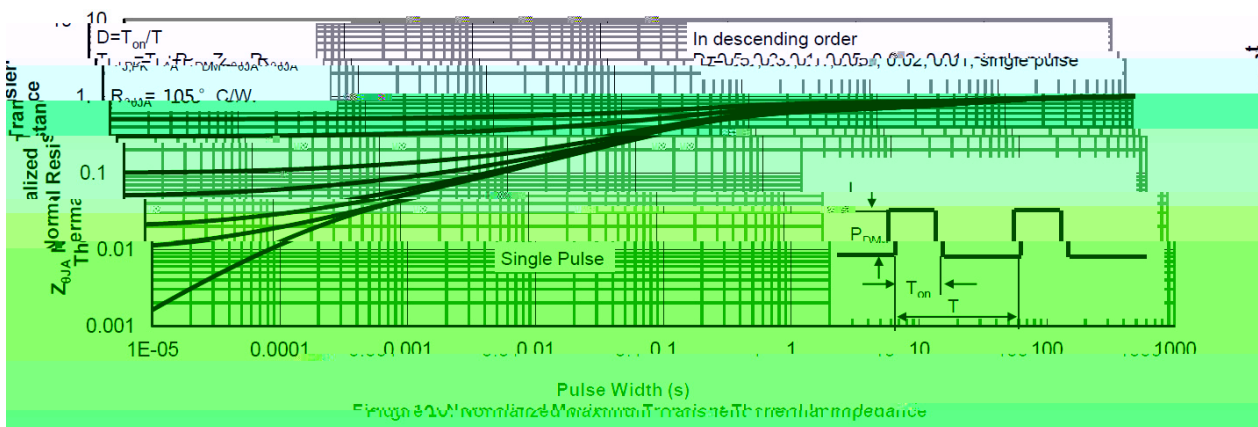
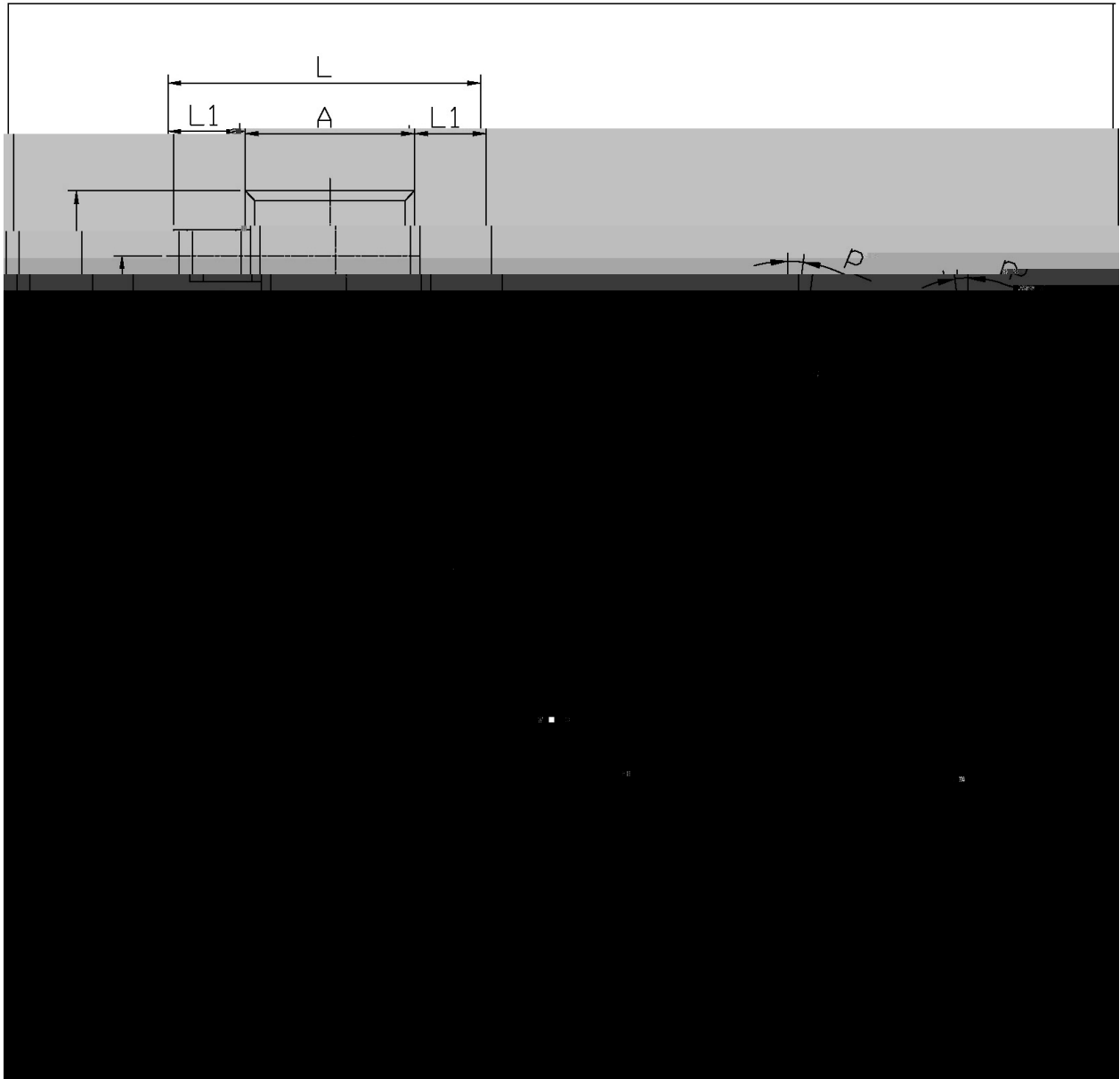


Figure 10: Normalized Thermal Resistance

/ Package Dimensions

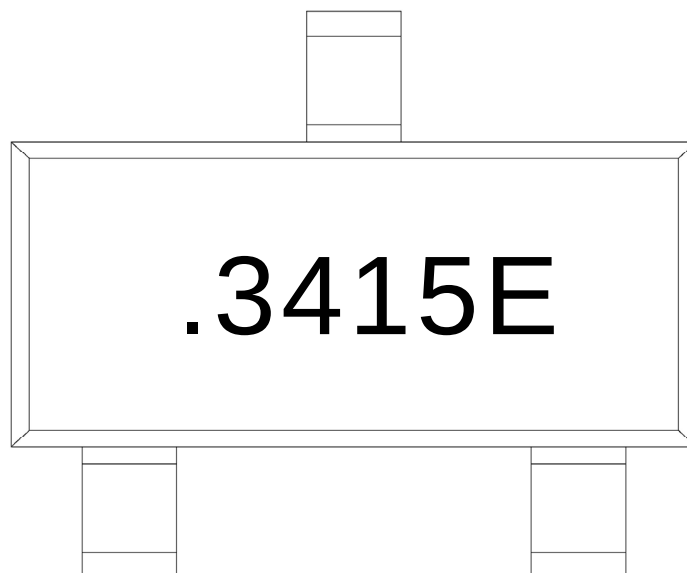
SOT-23

单位: mm





/ Marking Instructions

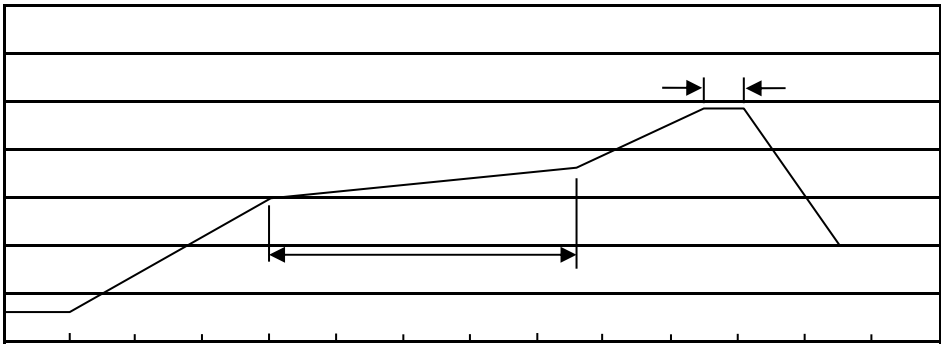


.3415E

Note:

.3415E: Product Type Code

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- Note:

1

150 180

60 90sec;

1.Preheating:150~180 , Time:60~90sec.

2

245±5

5±0.5sec;

2.Peak Temp.:245±5 , Duration:5±0.5sec.

3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ 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

/ Notices

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