Rev.B Aug.-2023

SOT-23 N

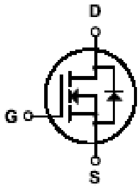
N- CHANNEL MOSFET in a SOT-23 Plastic Package.

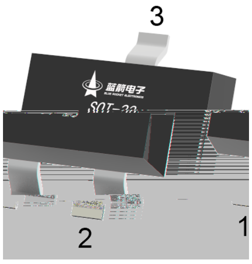
$R_{DS(ON)}$ SOT-23

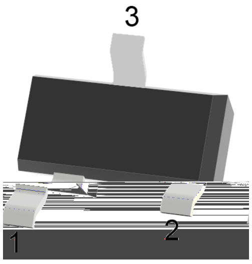
Low $R_{DS(ON)}$,SOT-23 package,HF Product.

DC-DC

Battery management,High speed switch,low power DC to DC converter.







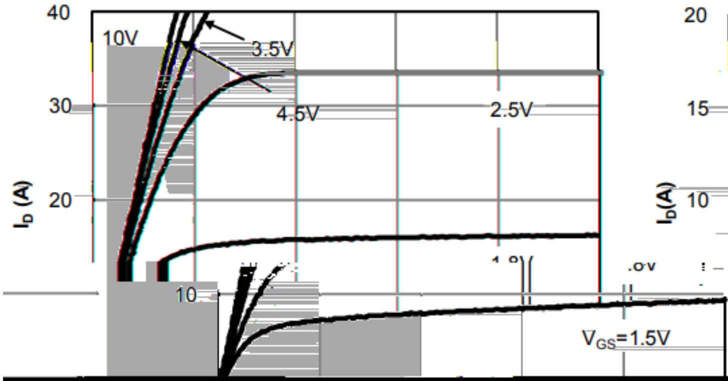
PIN1 G PIN 2 S PIN 3 D

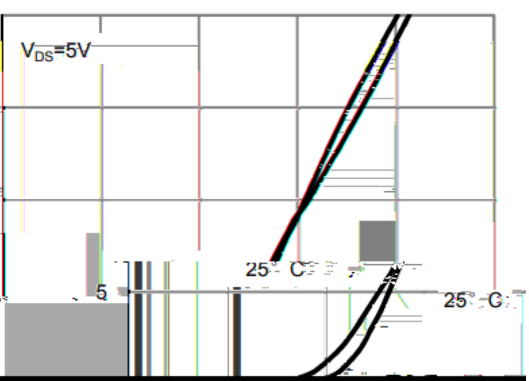
Marking	A8H

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	20	V
Gate-Source Voltage		V_{GSS}	±10	V
Drain Current – Continuous		I_D	4.5	A
Pulsed Drain Current		I_{DM}	12	A
Power Dissipation		P_D	1.4	W
Storage Temperature Range		T_{stg}	-55～150	
Maximum Junction-to-Ambient	t ≤ 10s	R_{JA}	90	℃/W
Maximum Junction-to-Ambient	Steady-State		125	
Maximum Junction-to-Lead	Steady-State	R_{JL}	80	

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0	I_D=250 A	20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0	V_{DS}=20V			1.0	A
Gate–Body Leakage.	I_{GSS}	V_{GS}=±10V	V_{DS}=0V			±100	nA
Static Drain–Source On–Resistance	$R_{DS(on)1}$	V_{GS}=4.5V	I_D=4.5A		21	25	m
	$R_{DS(on)2}$	V_{GS}=2.5V	I_D=4.0A		26	38	m
Forward Transconductance	g_{FS}	V_{DS}=5V	I_D=4.5A		6		S
Drain–Source Diode Forward Voltage	V_{SD}	V_{GS}=0V	I_D=1A		0.74	1.2	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=50 A	0.5	0.6	1.0	V
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=10V, f=1MHz			500		pF
Output Capacitance	C_{oss}				255		
Reverse Transfer Capacitance	C_{rss}				210		
Gate resistance	R_g	V_{GS}=V_{DS}=0V, f=1MHz			1.7		Ω

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g(10V)	V_{DS}=10V V_{GS}=10V I_D=4.5A		12.5		nC
Total Gate Charge	Q_g(4.5V)			6		
Gate Source Charge	Q_{gs}			1		
Gate Drain Charge	Q_{gd}			2		
Turn–On Delay Time	$t_{d(on)}$	V_{DS}=10V V_{GS}=10V R_{GEN}=3 R_L=1.7		3		ns
Turn–On Rise Time	t_r			7.5		
Turn–Off Delay Time	$t_{d(off)}$			20		
Turn–Off Fall Time	t_f			6		





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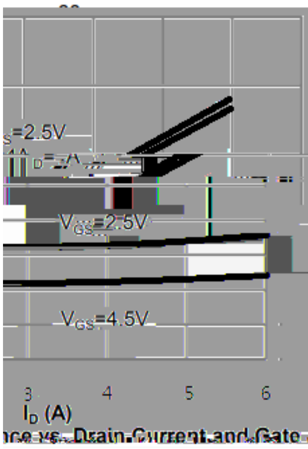
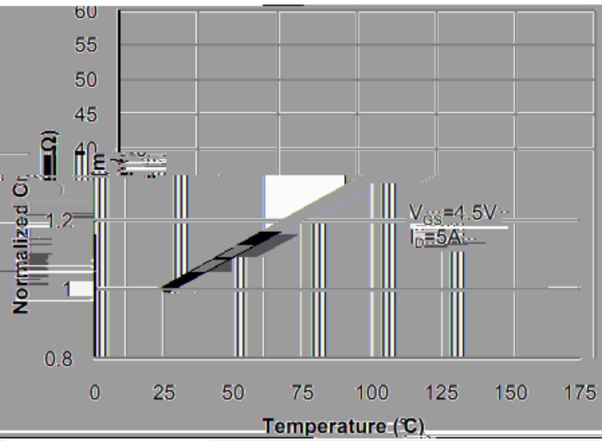


nce vs. Drain Current and Gate
Voltage



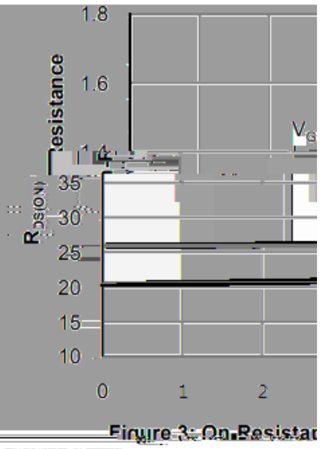


Figure 3: On-Resistan

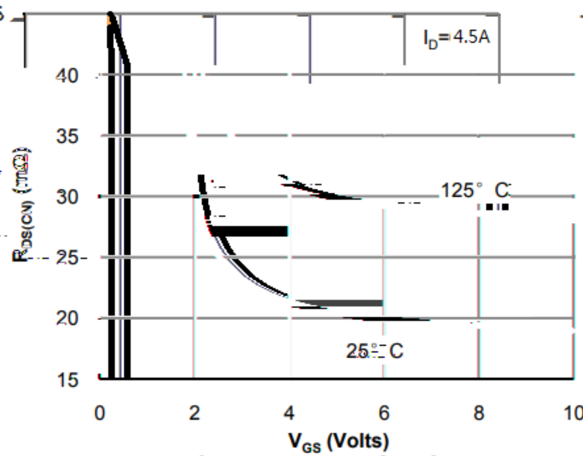


Figure 5: On-Resistance vs. Gate-Source Voltage

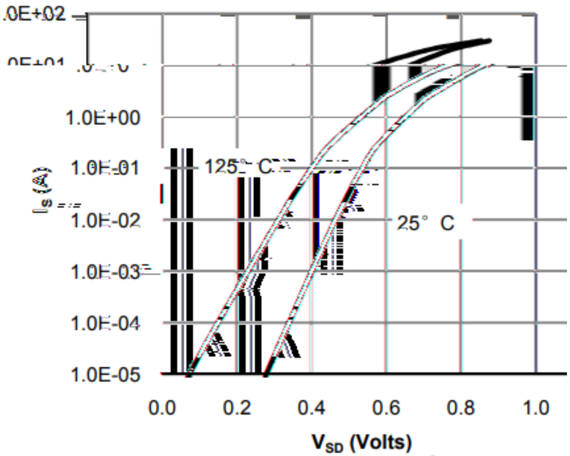


Figure 6: Body-Diode Characteristics

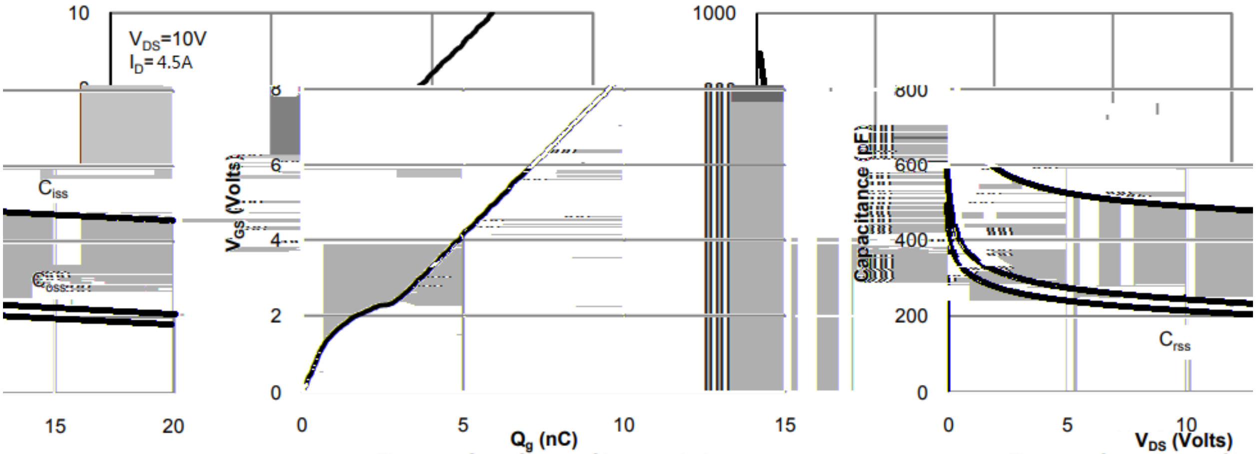


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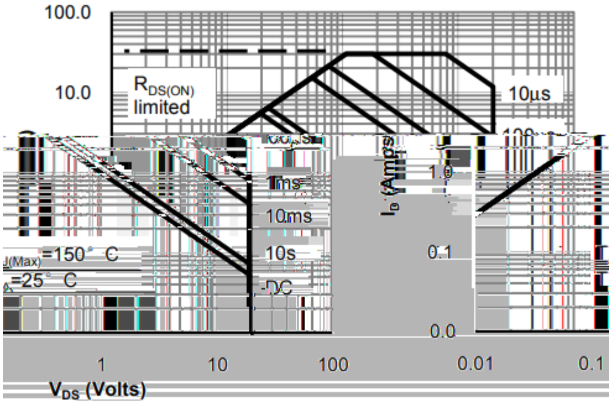
Figure 7: Gate-Charge Characteristics

Figure 8: Capacitance Cha



ximum Forward Biased Safe Operating Area

Figure 9: Ma

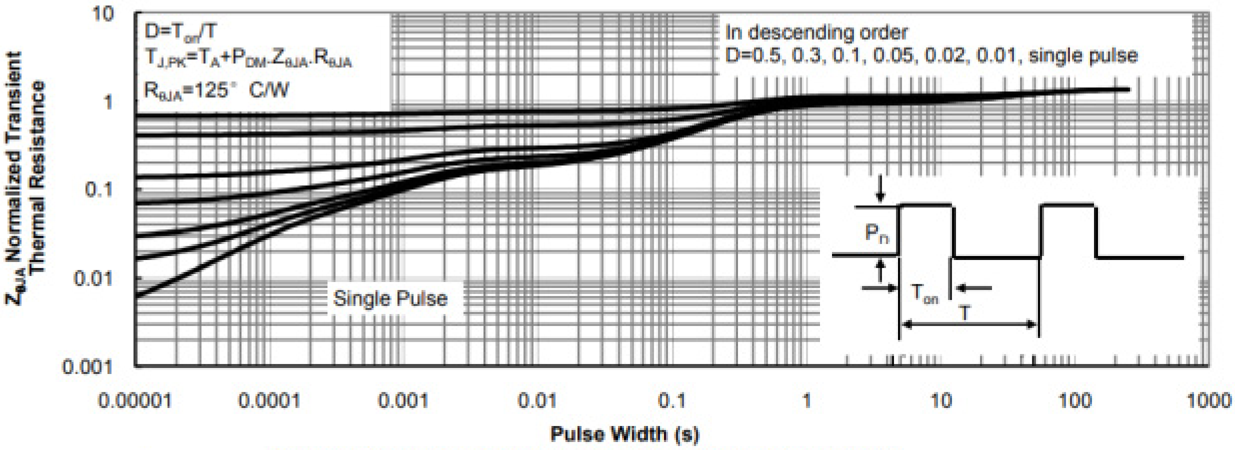
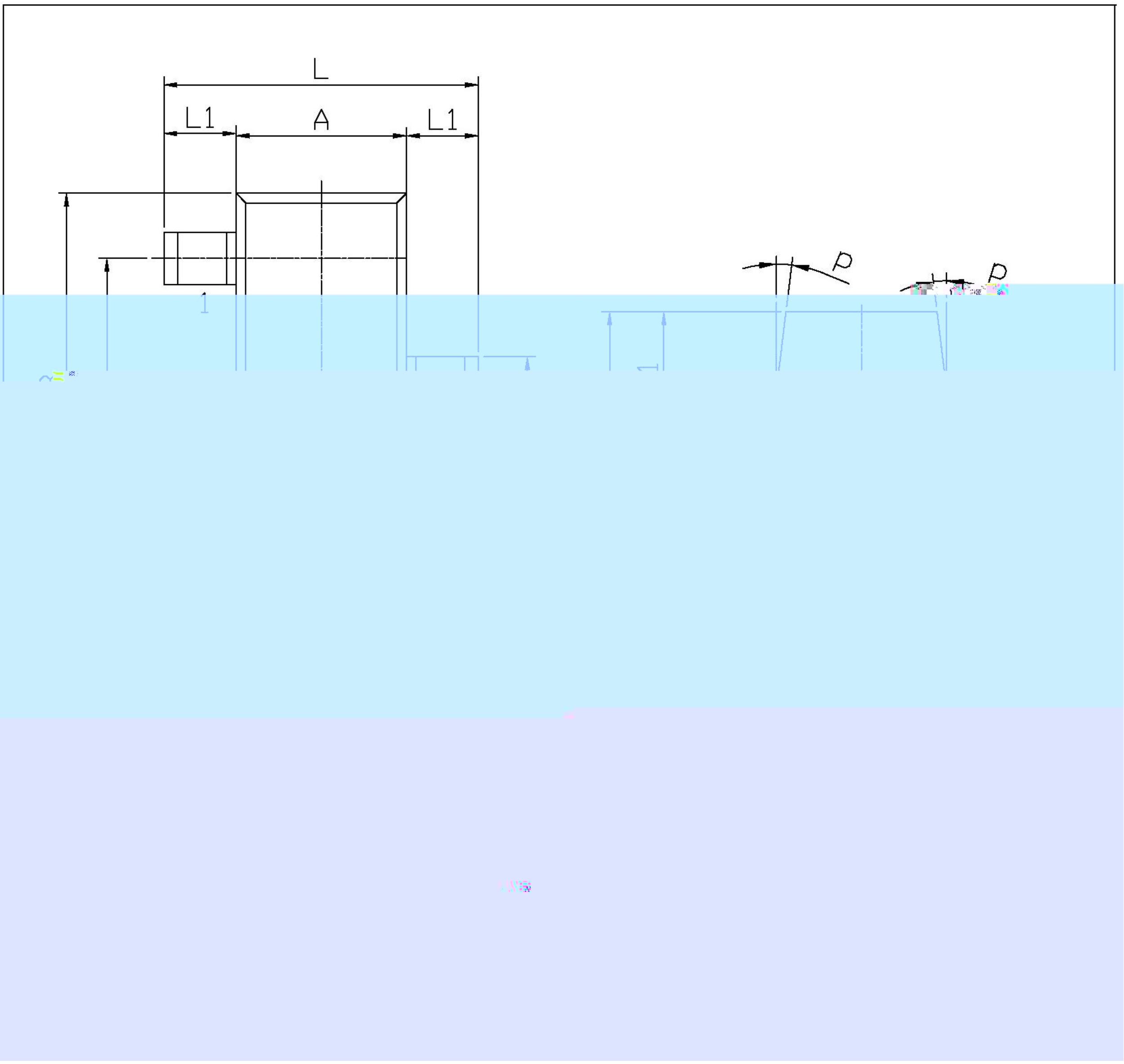
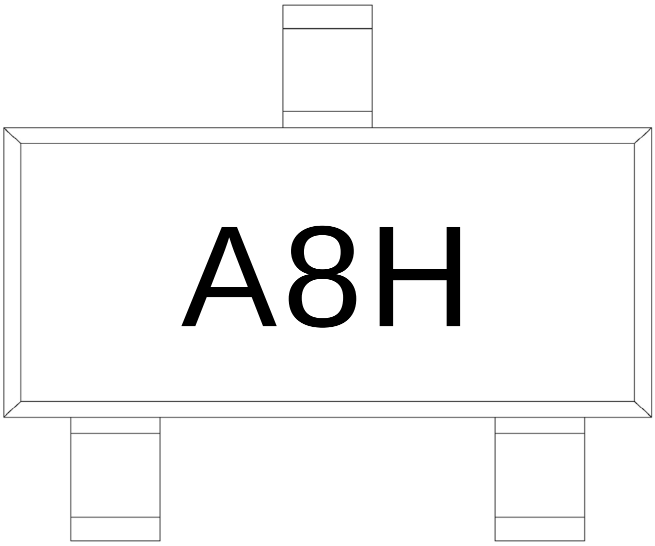


Figure 10: Normalized Maximum Transient Thermal Impedance

SOT-23

单位：mm





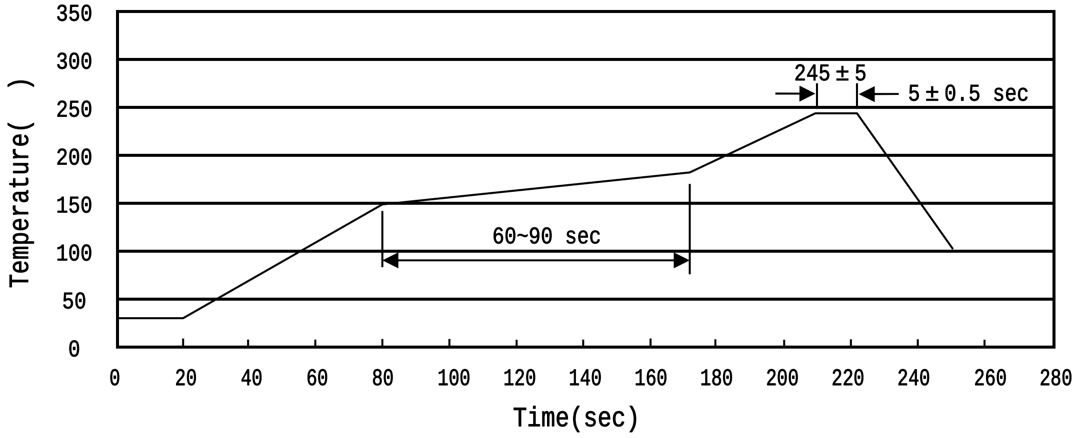
A8:

H:

Note:

A8	Product Type Code
H:	Company Code

Temperature Profile for IR Reflow Soldering(Pb-Free)



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.

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