General Description

Dual N-Channel MOSFET in a SOT23-6 Plastic Package.

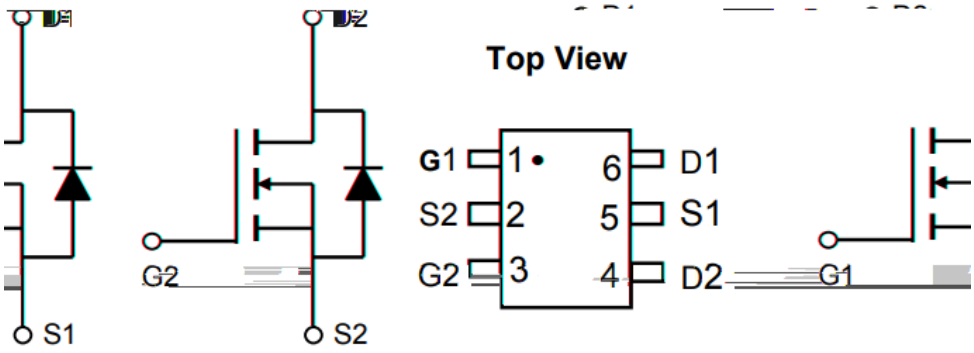
Features

Super high dense cell design for low $R_{DS(ON)}$,Rugged and reliable,HF product.

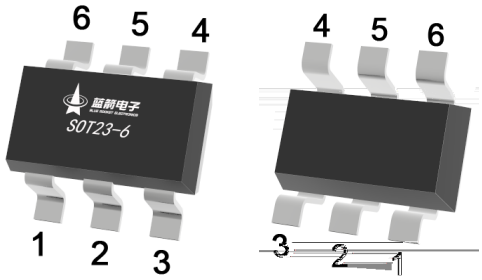
Application

Power Management in Notebook computer, Portable Equipment and Battery powered systems.

Schematic Diagram



Pin Configuration



PIN1 G1 PIN 2 S2 PIN 3 G2

PIN 4 D2 PIN 5 S1 PIN 6 D1

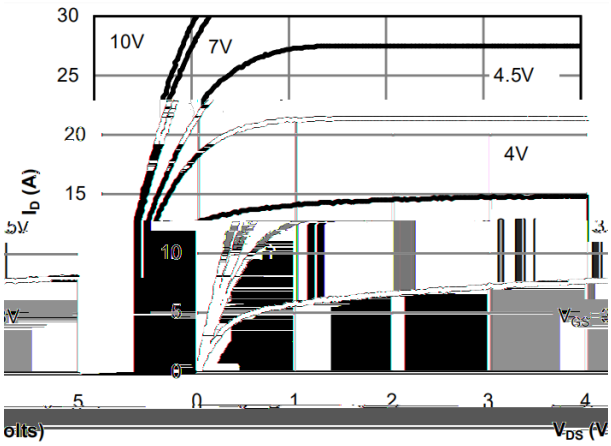
Marking

Marking	B4DH

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	30	V
Gate-Source Voltage		V_{GSS}	±20	V
Drain Current – Continuous		I_D	5.5	A
Pulsed Drain Current		I_{DM}	27.5	A
Power Dissipation		P_D	1.3	W
Storage Temperature Range		T_{stg}	-55 150	
Maximum Junction-to-Ambient	t ≤ 10s	$R_{\theta JA}$	95	/W
Maximum Junction-to-Ambient	Steady-State		150	
Maximum Junction-to-Lead	Steady-State	$R_{\theta JL}$	68	

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0	I_D=250μA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0	V_{DS}=30V			1.0	μA
Gate–Body Leakage.	I_{GSS}	V_{GS}=±20V	V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250μA	1.0	1.6	2.5	V
Static Drain–Source On–Resistance	$R_{DS(on)1}$	V_{GS}=10V	I_D=5.5A		20	31	mΩ
	$R_{DS(on)2}$	V_{GS}=4.5V	I_D=4.0A		26	43	mΩ
Drain–Source Diode Forward Voltage	V_{SD}	V_{GS}=0V	I_D=1A		0.75	1.2	V

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	Ciss	VGS=0V, VDS=25V f=1MHz		690		pF
Output Capacitance	Coss			200		
Reverse Transfer Capacitance	Crss			130		
Gate resistance	Rg	VGS=0V, VDS=0V f=1MHz		3.0		Ω
Total Gate Charge	$Q_{g(10V)}$	V_{GS}=10V, V_{DS}=15V, I_D=5.5A		5.2		nC
Total Gate Charge	$Q_{g(4.5V)}$			2.5		
Gate Source Charge	Q_{gs}			0.8		
Gate Drain Charge	Q_{gd}			1.3		
Turn–On Delay Time	$t_{d(on)}$	V_{GS}=10V R_L=3Ω V_{DS}=15V R_{GEN}=3Ω		4.5		ns
Turn–On Rise Time	t_r			2.5		
Turn–Off Delay Time	$t_{d(off)}$			14.5		
Turn–Off Fall Time	t_f			3.5		



ı Characteristics

Fig 1: On-Regio

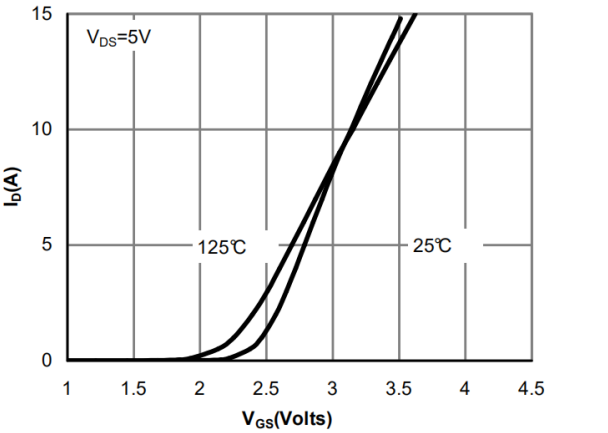
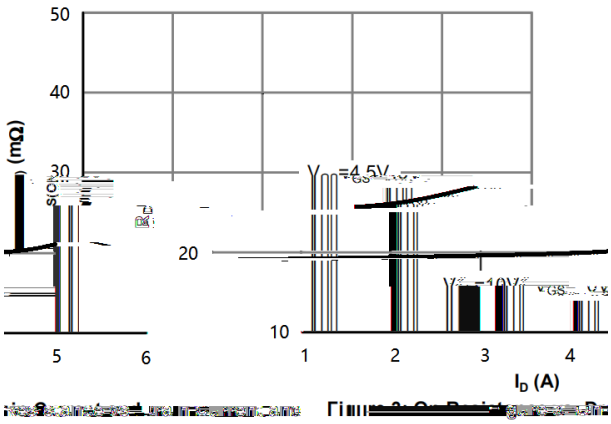


Figure 2: Transfer Characteristics



Gate Voltage

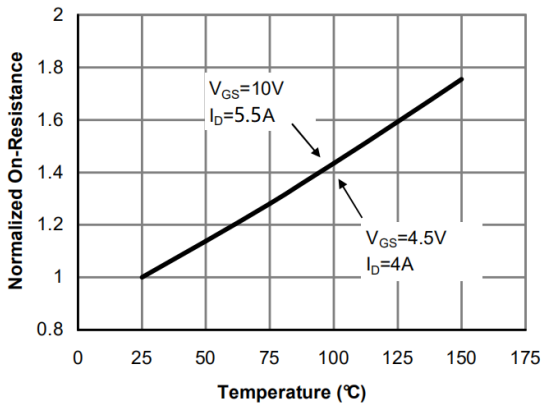


Figure 4: On-Resistance vs. Junction Temperature

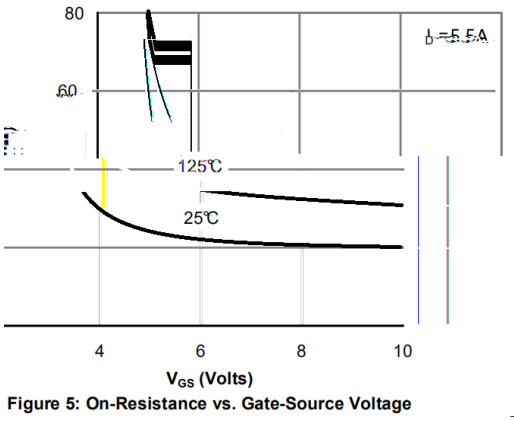


Figure 5: On-Resistance vs. Gate-Source Voltage

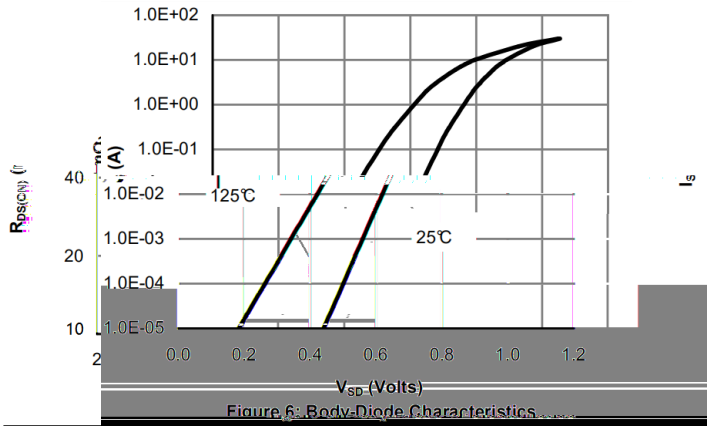


Figure 6: Body-Diode Characteristics

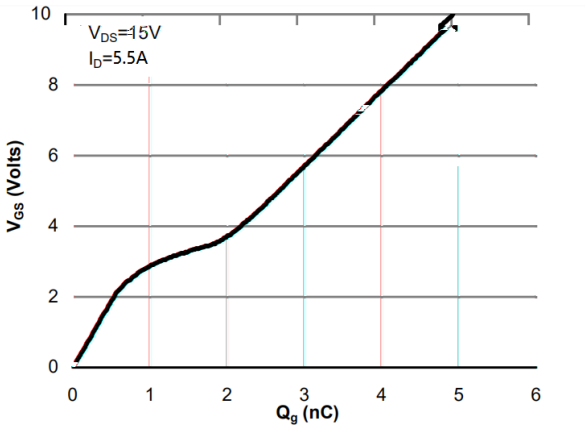


Figure 7: Gate-Charge Characteristics

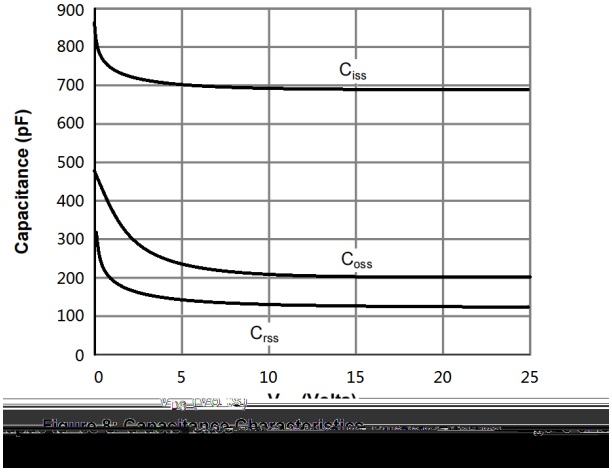


Figure 8: Capacitance Characteristics

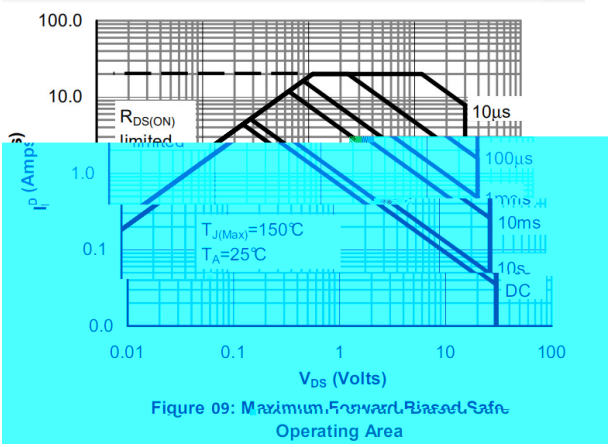


Figure 09: Maximum Forward Biased Safe Operating Area

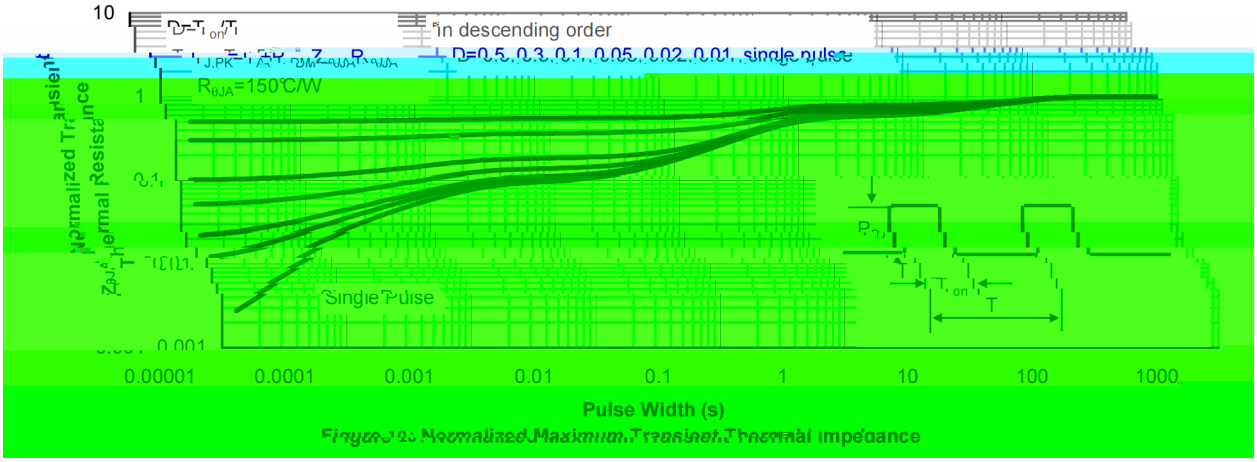
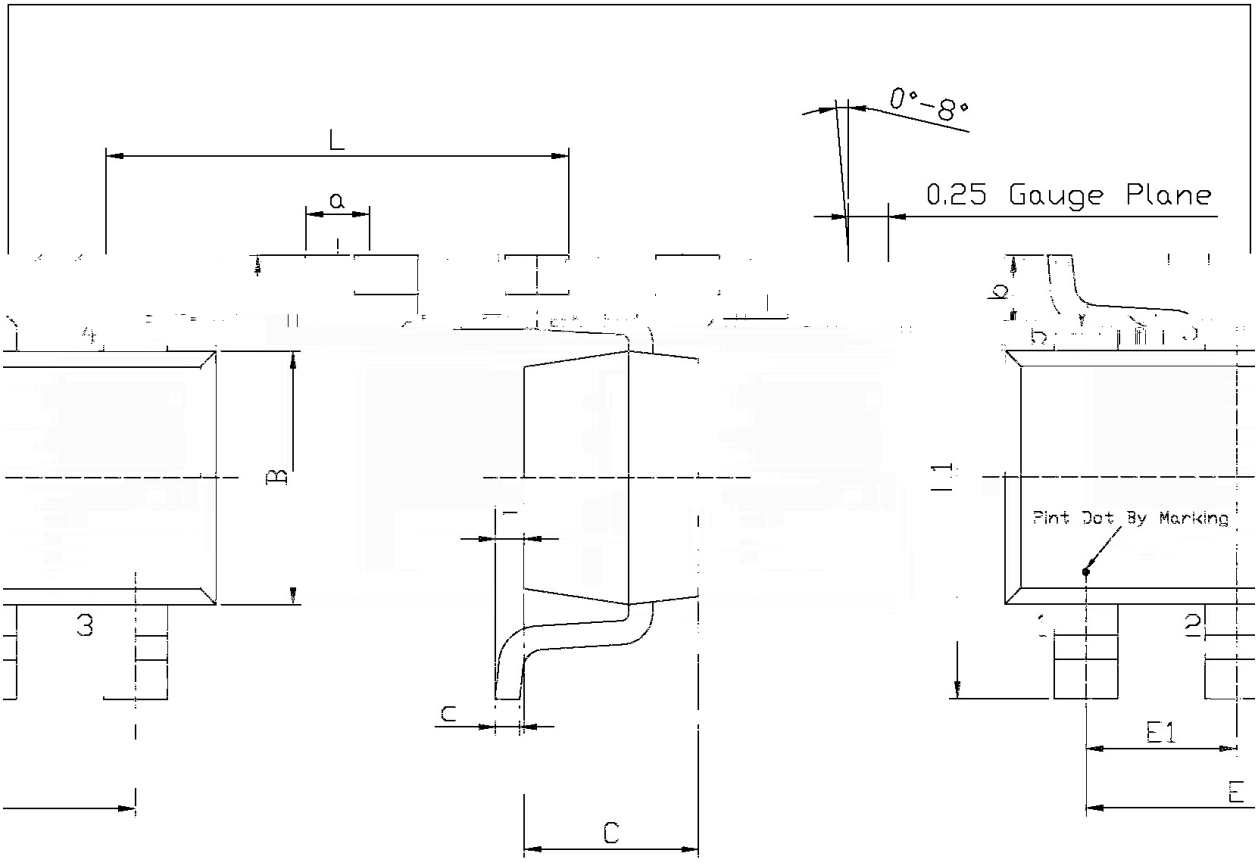


Figure 10: Normalized Maximum Transient Thermal Impedance

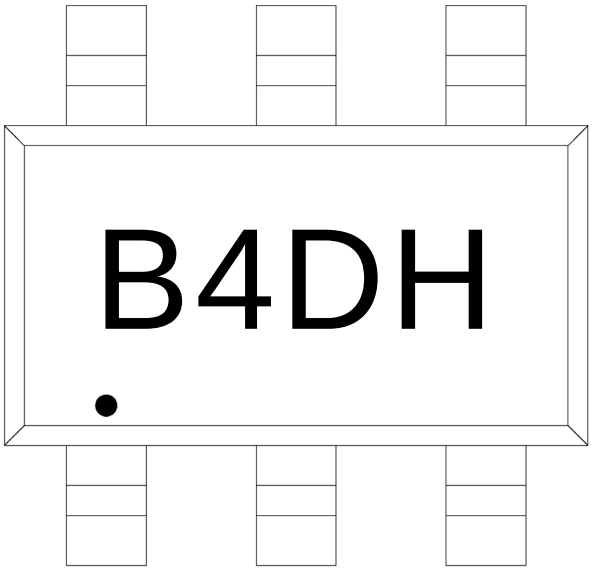


Unit: mm

ensions In Millimeters		Symbol	Dimensions In Millimeters	
Min	Max		Min	Max
2.82	3.02	E1	0.85	1.05
1.50	1.70	a	0.35	0.50
0.90	1.30	c	0.10	0.20
2.60	3.00	b	0.35	0.55
1.80	2.00	F	0	0.15

Symbol	Dim
L	
B	
C	
L1	
E	

SOT23-6



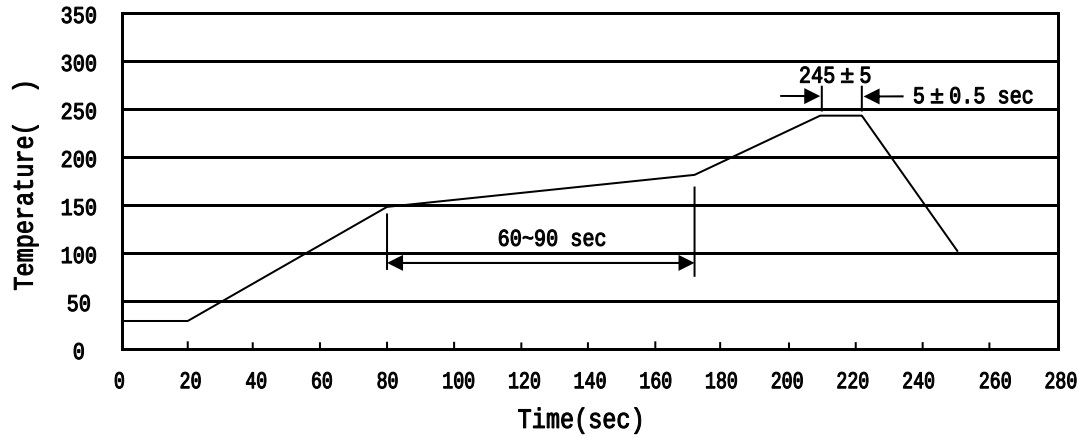
B4D:

H:

Note:

B4D	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 封装形式	Units 包装数量					Dimension 包装尺寸 (unit：mm³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT23-5/6	3,000	10	30,000	4	120,000	7″ ×8	210×205×205	445×230×435