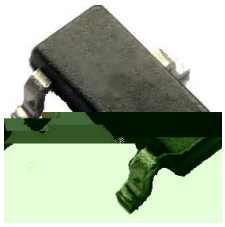
Rev. B Dec.-2018

SOT23-3 P MOS - CHANNEL MOSFET in a SOT23-3 Plastic Package.

$V_{DS\ (}V) = -30V$
$I_D = -4.2$ A ($V_{GS} = -10V$)
$R_{DS(ON)} < 60m\Omega$ ($V_{GS} = -10V$)
$R_{DS(ON)} < 65m\Omega$ ($V_{GS} = -4.5V$)
$R_{DS(ON)} < 120m\Omega$ ($V_{GS} = -2.5V$)
alogen free product.

This device is suitable for use as a load switch or in PWM applications.



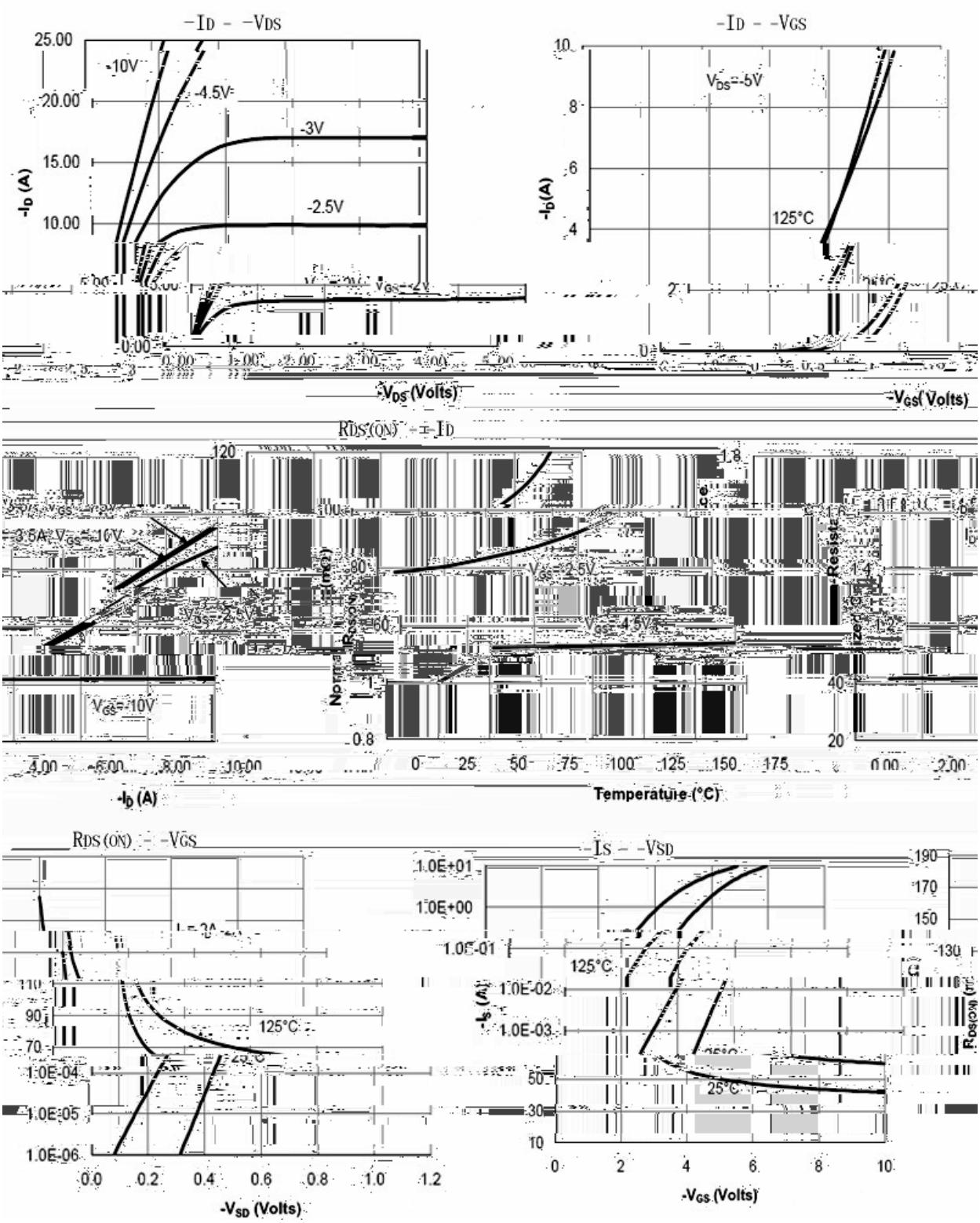
PIN1 G PIN 2 S PIN 3 D

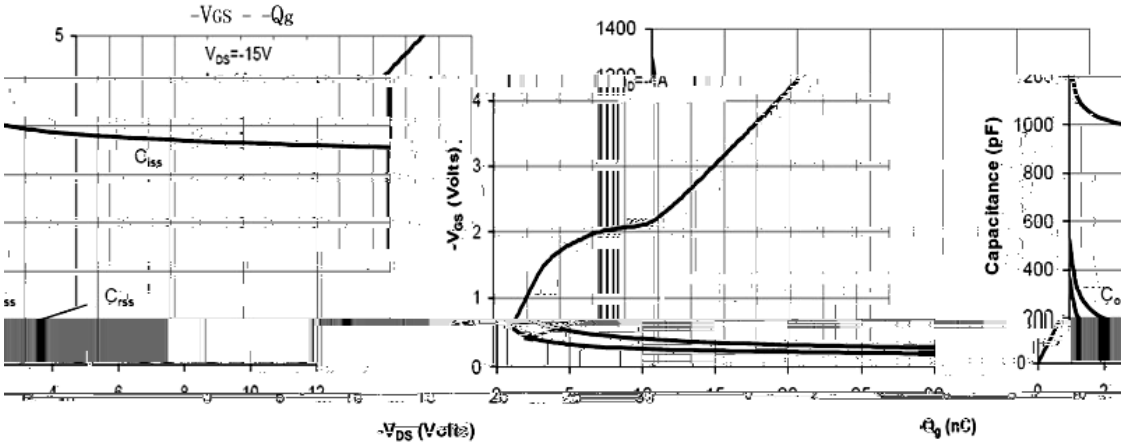
Marking	B1H

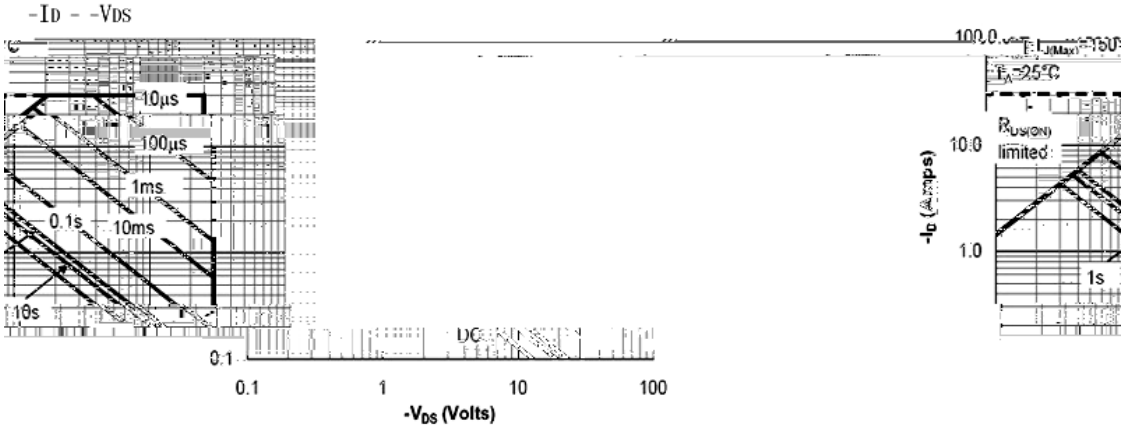
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Drain Current – Continuous	I_D	-4.2	A
Drain Current- Continuous [A]	I_D(T_a=70℃)	-3.5	A
Pulsed Drain Current [B]	I_{DM}	-30	A
Gate-Source Voltage	V_{GS}	±12	V
Total Power Dissipation [A]	P_D	1.4	W
Total Power Dissipation [A]	P_D(T_a=70℃)	1.0	W
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to 150	℃
Maximum Junction-to-Ambient [A]	R_{JA}	125	℃/W
Maximum Junction-to-Lead [C]	R_{JL}	60	℃/W

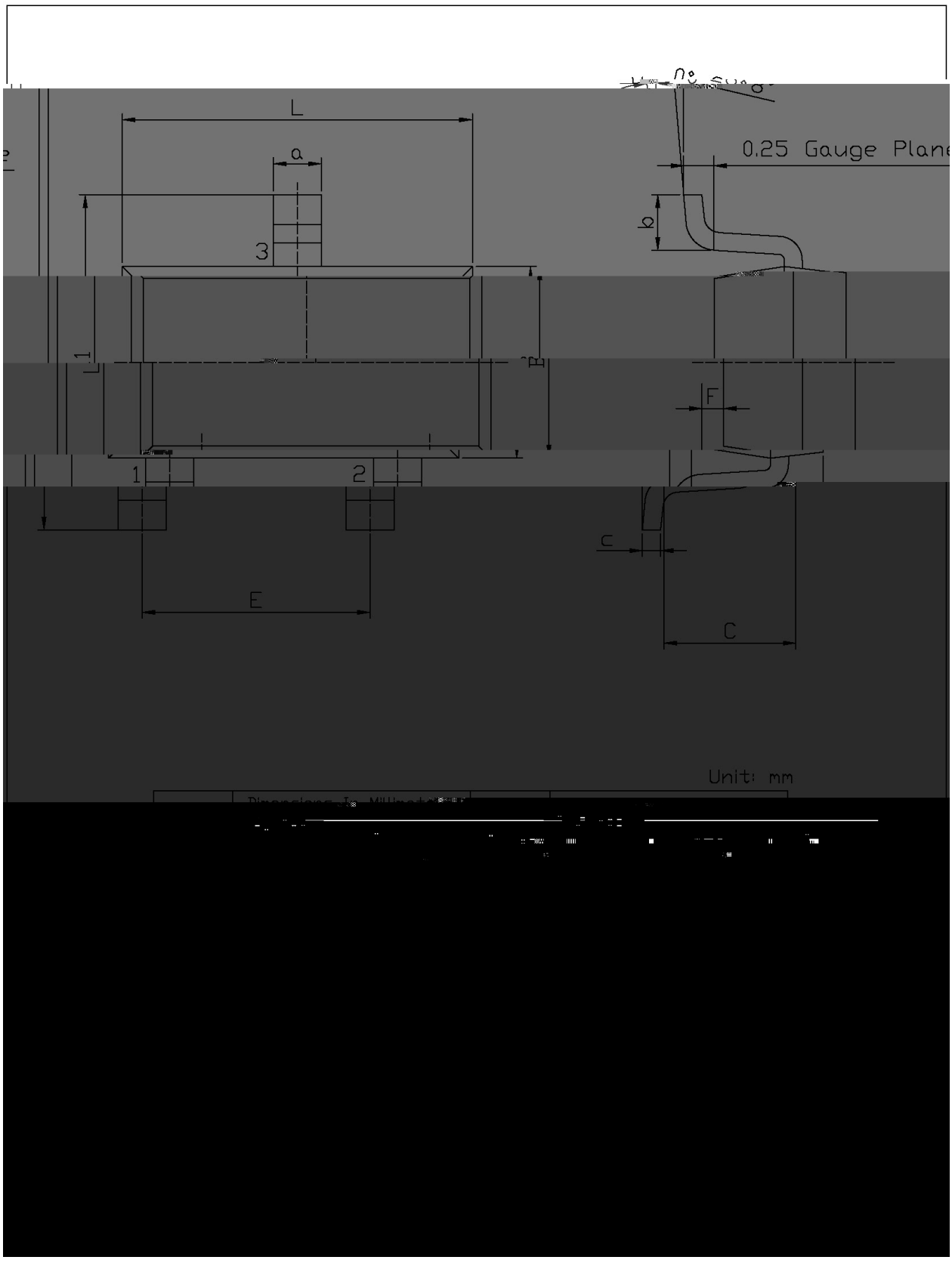
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=-250 A	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-24V V_{GS}=0V			-1	A
		V_{DS}=-24V V_{GS}=0V T_J=55℃			-5	A
Gate–Body Leakage.	I_{GSS}	V_{GS}=±12V V_{DS}=0V			±0.1	A
On–State Drain Current	$I_{D(on)}$	V_{GS}=-4.5V V_{DS}=-5V	-25			A
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=-250 A	-0.7	-1	-1.3	V
Static Drain–Source On–Resistance	$R_{DS(on)(1)}$	V_{GS}=-10V I_D=-4.2A		52	60	mΩ
	$R_{DS(on)(2)}$	V_{GS}=-10V I_D=-4.2A T_J=125℃			75	
	$R_{DS(on)(3)}$	V_{GS}=-4.5V I_D=-4A		60	65	
	$R_{DS(on)(4)}$	V_{GS}=-2.5V I_D=-1A		75	120	
Forward Transconductance	g_{FS}	V_{DS}=-5V I_D=-5A	4	8		S
Drain–Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=-1A		-0.75	-1.0	V

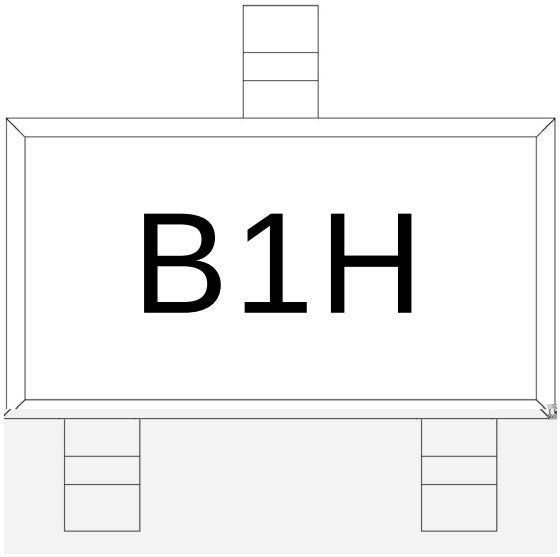
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	C_{iss}	V_{DS}=-15V V_{GS}=0V f=1MHz		957		pF
Output Capacitance	C_{oss}			115		
Reverse Transfer Capacitance	C_{rss}			77		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V, f=1MHz		6		Ω
Total Gate Charge	Q_g	V_{GS}=-4.5V V_{DS}=-15V I_D=-4A		9.4		nC
Gate Source Charge	Q_{gs}			2		


-ID - -VDS
25.00
20.00
15.00
10.00
-10V
-4.5V
-3V
-2.5V
-ID (A)
-VDS (Volts)
-ID - -VGS
VDS=-5V
125°C
-ID(A)
-VGS(Volts)
RDS(ON) - -ID
VGS=-10V
VGS=-2.5V
VGS=-4.5V
Normalized RDS(ON)
Resistance
-ID (A)
Temperature (°C)
RDS(ON) - -VGS
125°C
-VSD (Volts)
-IS - -VSD
1.0E+01
1.0E+00
1.0E-01
1.0E-02
1.0E-03
1.0E-04
1.0E-05
1.0E-06
125°C
25°C
-IS (A)
-VGS (Volts)


-VGS - -Qg
VDS=-15V
Ciss
Crss
-VGS (Volts)
Capacitance (pF)
Co
-VDS (Volts)
-Qg (nC)


-ID - -VDS
10µs
100µs
1ms
0.1s
10ms
1s
DC
-ID (Amps)
RDS(ON) limited
-VDS (Volts)


L
a
3
0.25 Gauge Plane
b
F
1
2
c
E
C
Unit: mm



B1

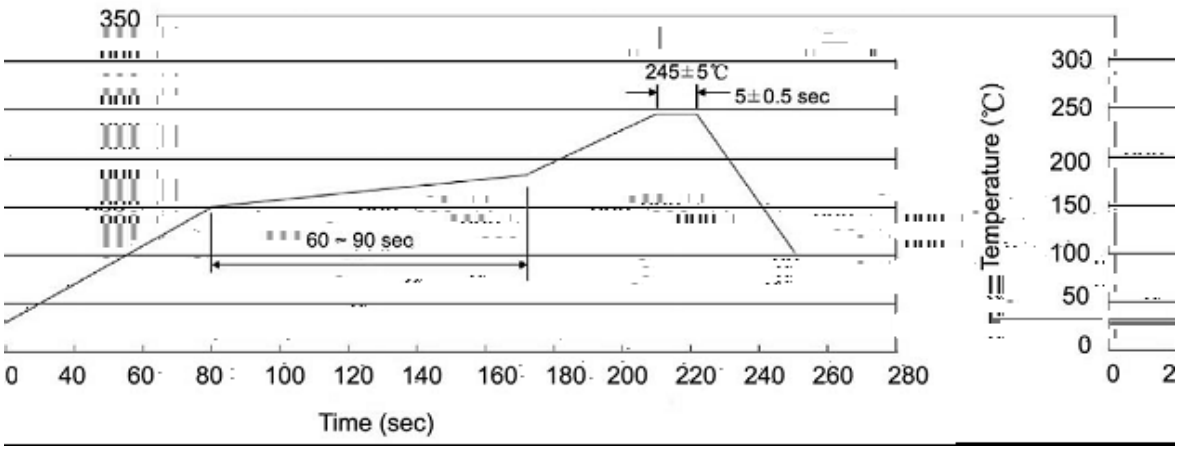
H

Note:

B1: Product Type Code.

H: Company Code.

Temperature Profile for IR Reflow Soldering(Pb-Free)



1 150 180 60 90sec;	Note: 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: mm^3)		
	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
SOT-23-3	3,000	10	30,000	4	120,000	7″ ×8	210×205×205	445×230×435