

/ Descriptions

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

/ Features

$V_{DS}(V) = -30V$

$I_D = -4.2 A (V_{GS} = -10V)$

$R_{DS(ON)} < 60m \quad (V_{GS} = -10V)$

$R_{DS(ON)} < 65m \quad (V_{GS} = -4.5V)$

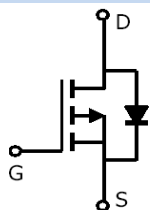
$R_{DS(ON)} < 120m \quad (V_{GS} = -2.5V)$

Halogen free product.

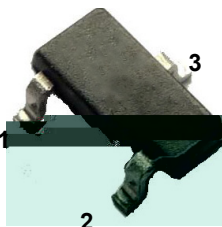
/ Applications

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

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 S PIN 3 D

/ Marking

Marking	B1H
---------	-----

/ Absolute Maximum Ratings(Ta=25)

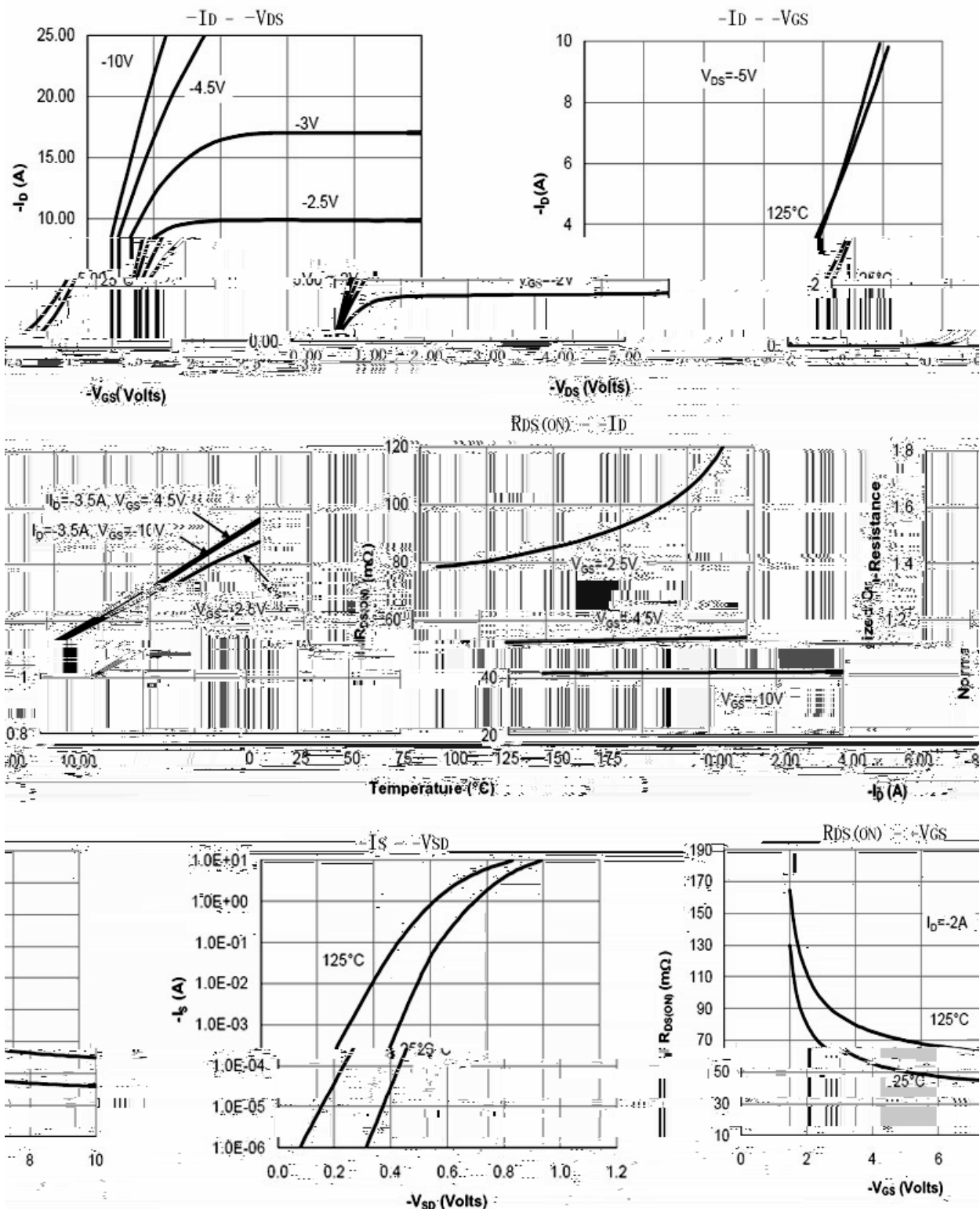
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Drain Current – Continuous	I_D	-4.2	A
Drain Current- Continuous ^A	$I_D(T_a=70^{\circ}\text{C})$	-3.5	A
Pulsed Drain Current ^B	I_{DM}	-30	A
Gate-Source Voltage	V_{GS}	± 12	V
Total Power Dissipation ^A	P_D	1.4	W
Total Power Dissipation ^A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

/ Electrical Characteristics(Ta=25)

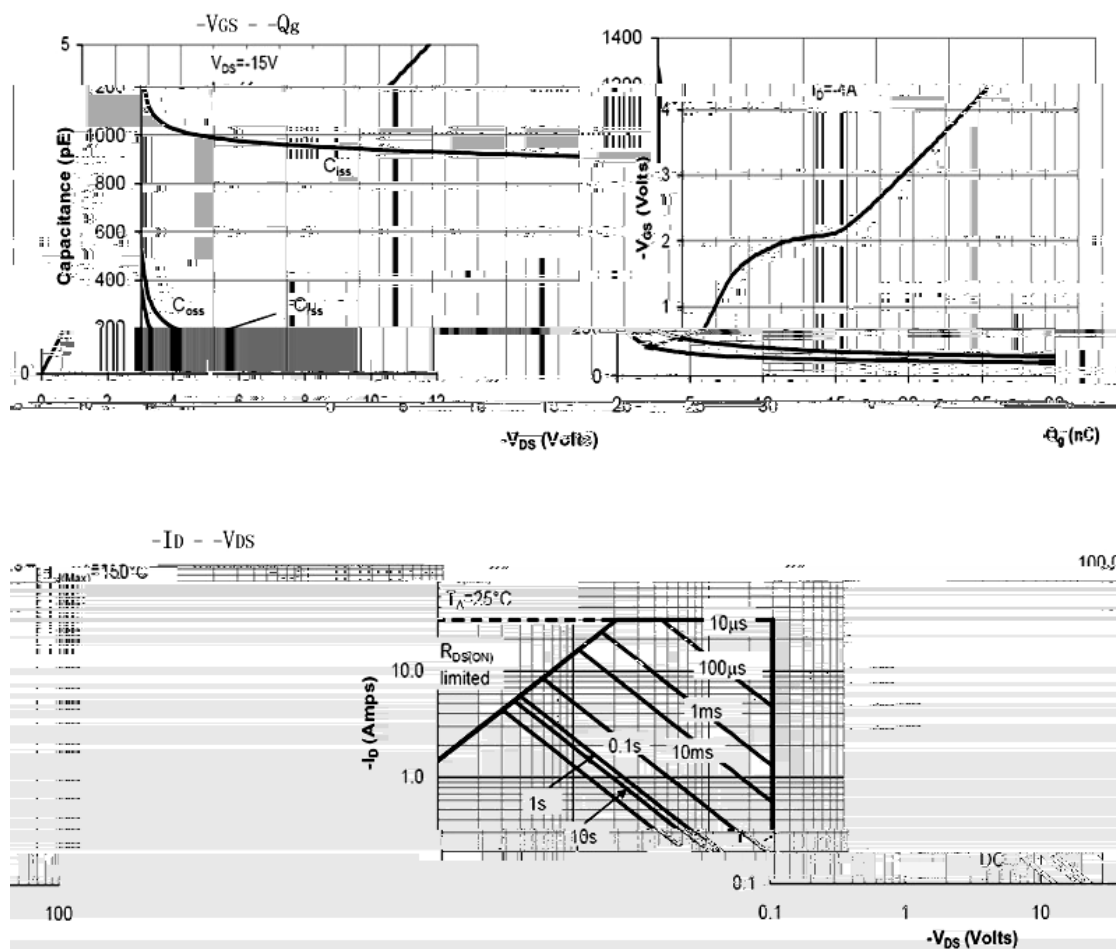
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=-250\mu A$	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-24V$ $V_{GS}=0V$			-1	μA
		$V_{DS}=-24V$ $V_{GS}=0V$ $T_J=55^{\circ}\text{C}$			-5	μA
Gate–Body Leakage.	I_{GSS}	$V_{GS}=\pm 12V$ $V_{DS}=0V$			± 0.1	μA
On–State Drain Current	$I_{D(on)}$	$V_{GS}=-4.5V$ $V_{DS}=-5V$	-25			A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-0.7	-1	-1.3	V
Static Drain–Source On–Resistance	$R_{DS(on)(1)}$	$V_{GS}=-10V$ $I_D=-4.2A$		52	60	m
	$R_{DS(on)(2)}$	$V_{GS}=-10V$ $I_D=-4.2A$ $T_J=125^{\circ}\text{C}$			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		
Total Gate Charge	Q_g	$V_{GS}=-4.5V$ $V_{DS}=-15V$ $I_D=-4A$		9.4		nC
Gate Source Charge	Q_{gs}			2		

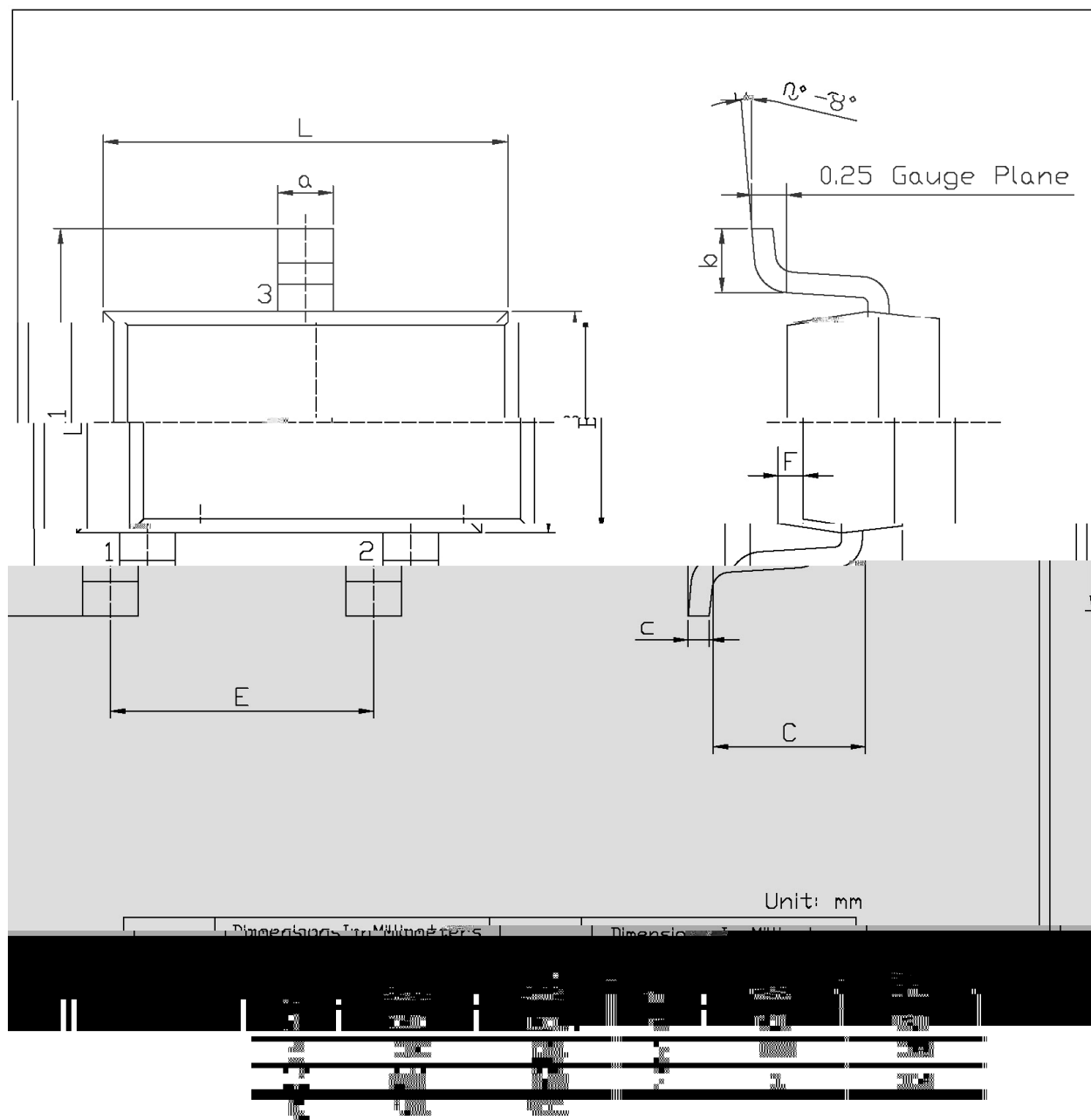
/ **Electrical Characteristic Curve**



/ Electrical Characteristic Curve

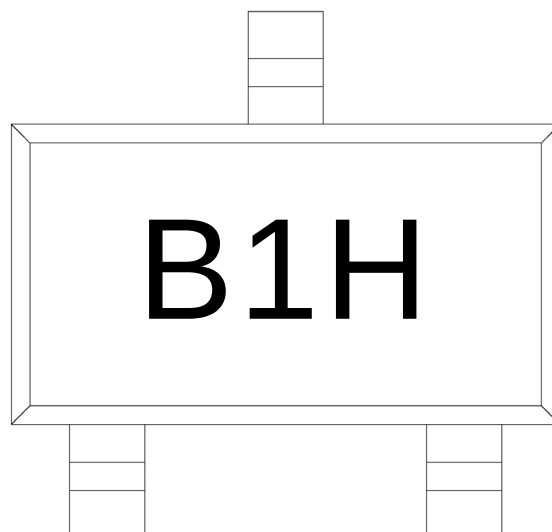


/ Package Dimensions



SC73B-3

/ **Marking Instructions**



B1

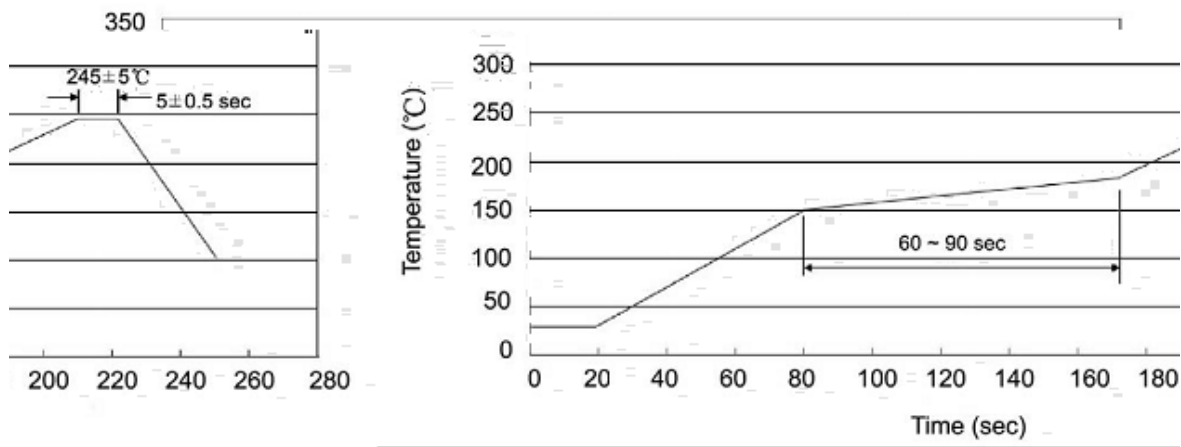
H

Note:

B1: 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. |

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ 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

/ Notices