

/ Descriptions

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

/ Features

$V_{DS} (V) = 20V$

$I_D = 6 A (V_{GS} = 10V)$

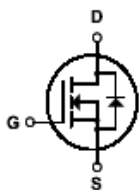
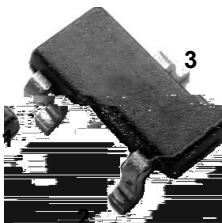
$R_{DS(ON)} < 24m\Omega (V_{GS} = 10V)$

$R_{DS(ON)} < 27m\Omega (V_{GS} = 4.5V)$

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	ALH
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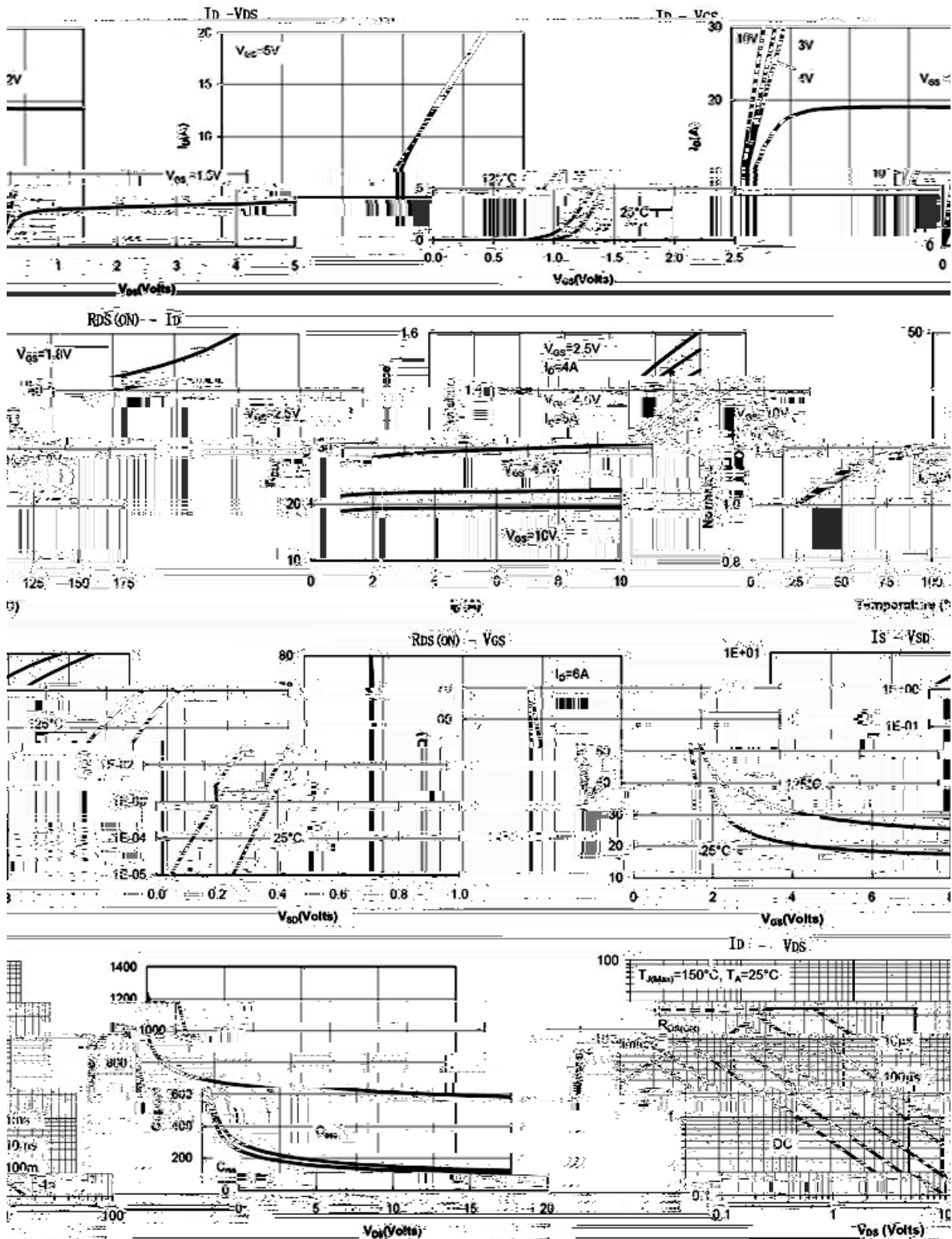
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Drain Current – Continuous	I_D	6	A
Drain Current- Continuous	$I_D(T_a=70^\circ\text{C})$	5	A
Pulsed Drain Current	I_{DM}	25	A
Gate-Source Voltage	V_{GS}	± 12	V
Total Power Dissipation	P_D	1.4	W
Total Power Dissipation	$P_D(T_a=70^\circ\text{C})$	0.9	W
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to 150	

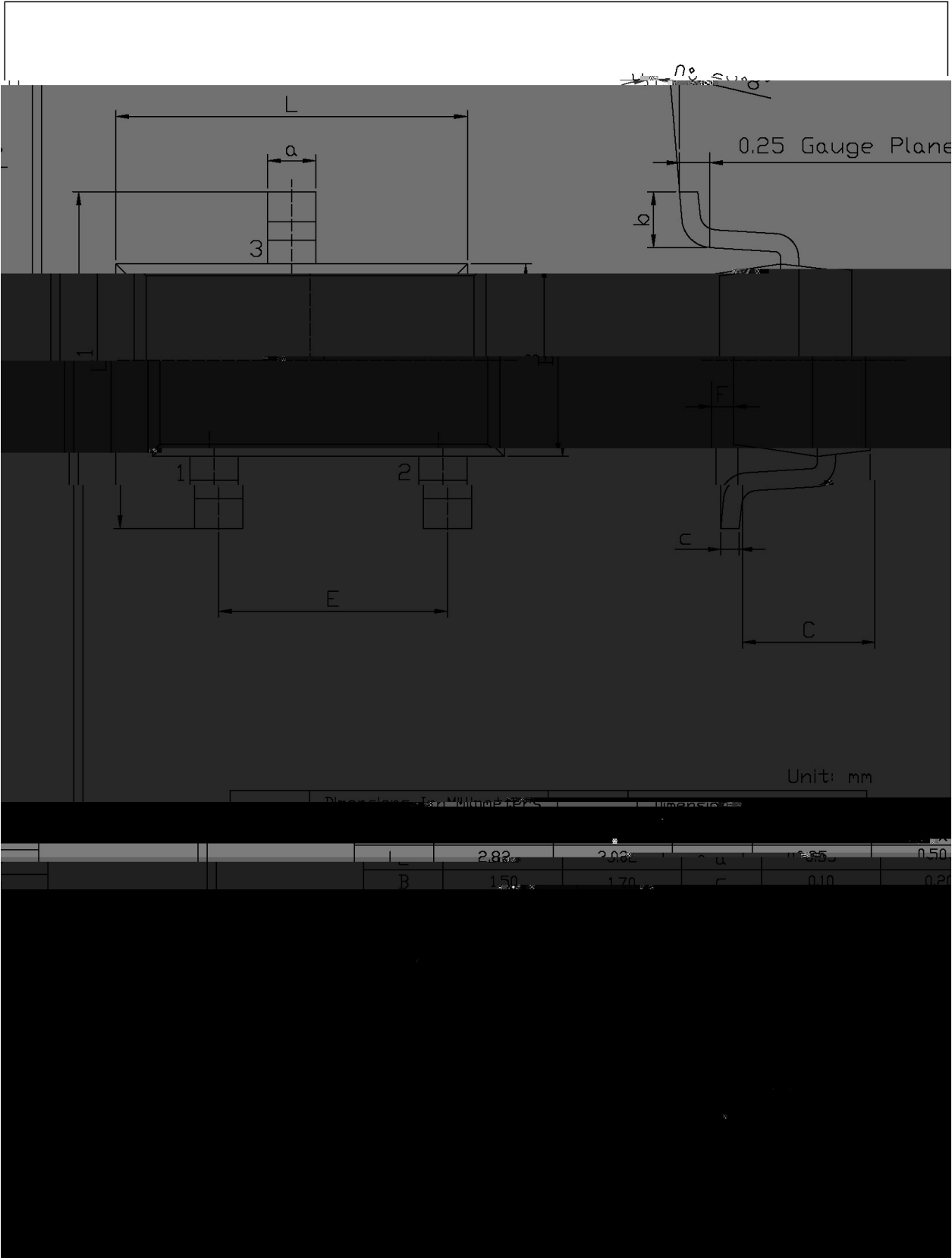
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	20			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=16V$ $V_{GS}=0V$			1.0	μA
		$V_{DS}=16V$ $V_{GS}=0V$ $T_J=55^\circ\text{C}$			5.0	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	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	0.5	0.7	1	V
Static Drain–Source On–Resistance	$R_{DS(on)1}$	$V_{GS}=10V$ $I_D=6A$		18	24	m Ω
	$R_{DS(on)2}$	$V_{GS}=10V$ $I_D=6A$ $T_J=125^\circ\text{C}$		29	35	
	$R_{DS(on)3}$	$V_{GS}=4.5V$ $I_D=5A$		20	27	
Forward Transconductance	g_{FS}	$V_{DS}=5V$ $I_D=3.8A$		24		S
Drain–Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1A$		0.75	1	V
Input Capacitance	C_{iss}	$V_{DS}=10V$ $V_{GS}=0V$ $f=1\text{MHz}$		630		pF
Output Capacitance	C_{oss}			164		
Reverse Transfer Capacitance	C_{rss}			137		
Turn–On Delay Time	$t_{d(on)}$	$V_{GS}=5V$ $R_L=1.7\Omega$ $V_{DS}=10V$ $R_{GEN}=6\Omega$		5.5		ns
Turn–On Rise Time	t_r			14		
Turn–Off Delay Time	$t_{d(off)}$			29		
Turn–Off Fall Time	t_f			10.2		

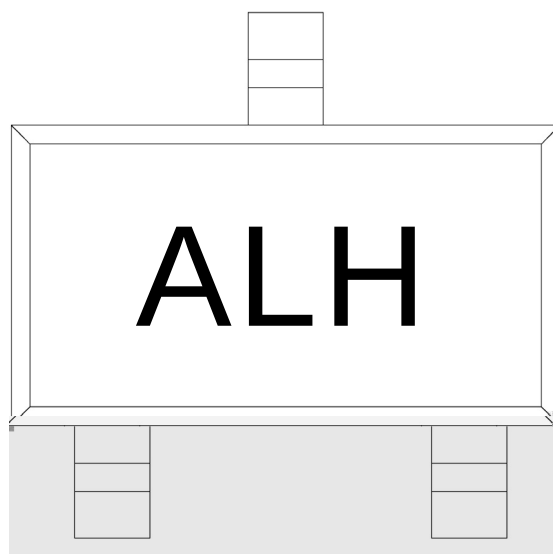
/ Electrical Characteristic Curve



/ Package Dimensions



/ **Marking Instructions**



AL

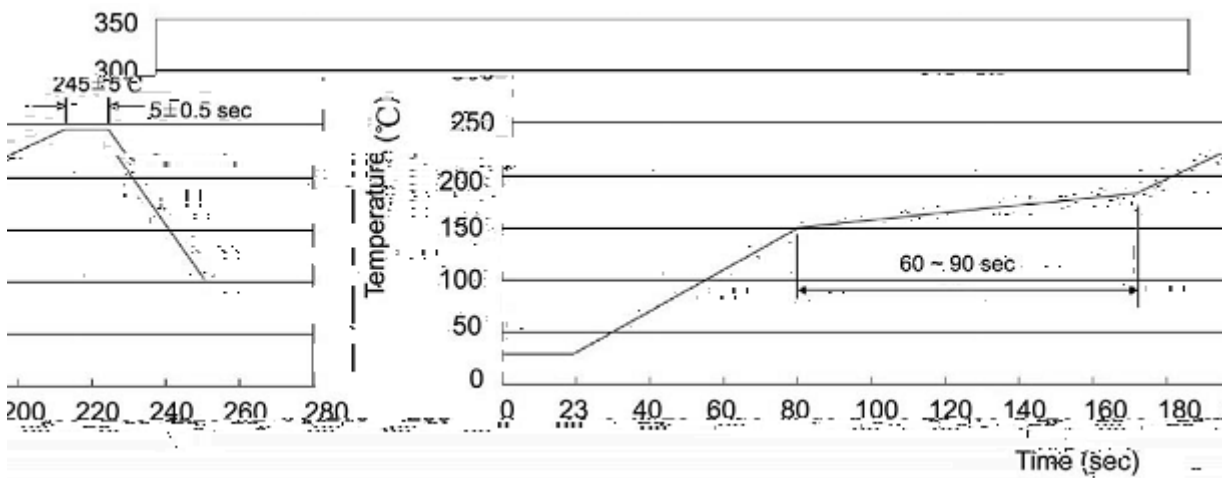
H

Note:

AL: Product Type.

H: Company Code.

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|-----------|---|--------------------------------------|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , 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)		
	只 卷盘	卷盘 盒	只 盒	盒 箱	只 箱		盒	箱

/ Notices