

Descriptions

This 20V 6A N-Channel MOSFET in a SOT-23-3 Plastic Package.

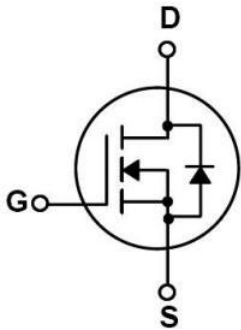
Features

- V_{DS} (V) = 20V
- I_D = 6 A (V_{GS} = 10V)
- $R_{DS(ON)}$ < 24m Ω (V_{GS} = 10V)
- $R_{DS(ON)}$ < 27m Ω (V_{GS} = 4.5V)
- Halogen free product.

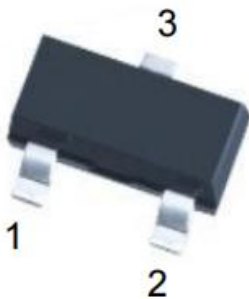
Applications

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

Equivalent Circuit



Pinning



PIN1: Gate

PIN 2: Source

PIN 3: Drain

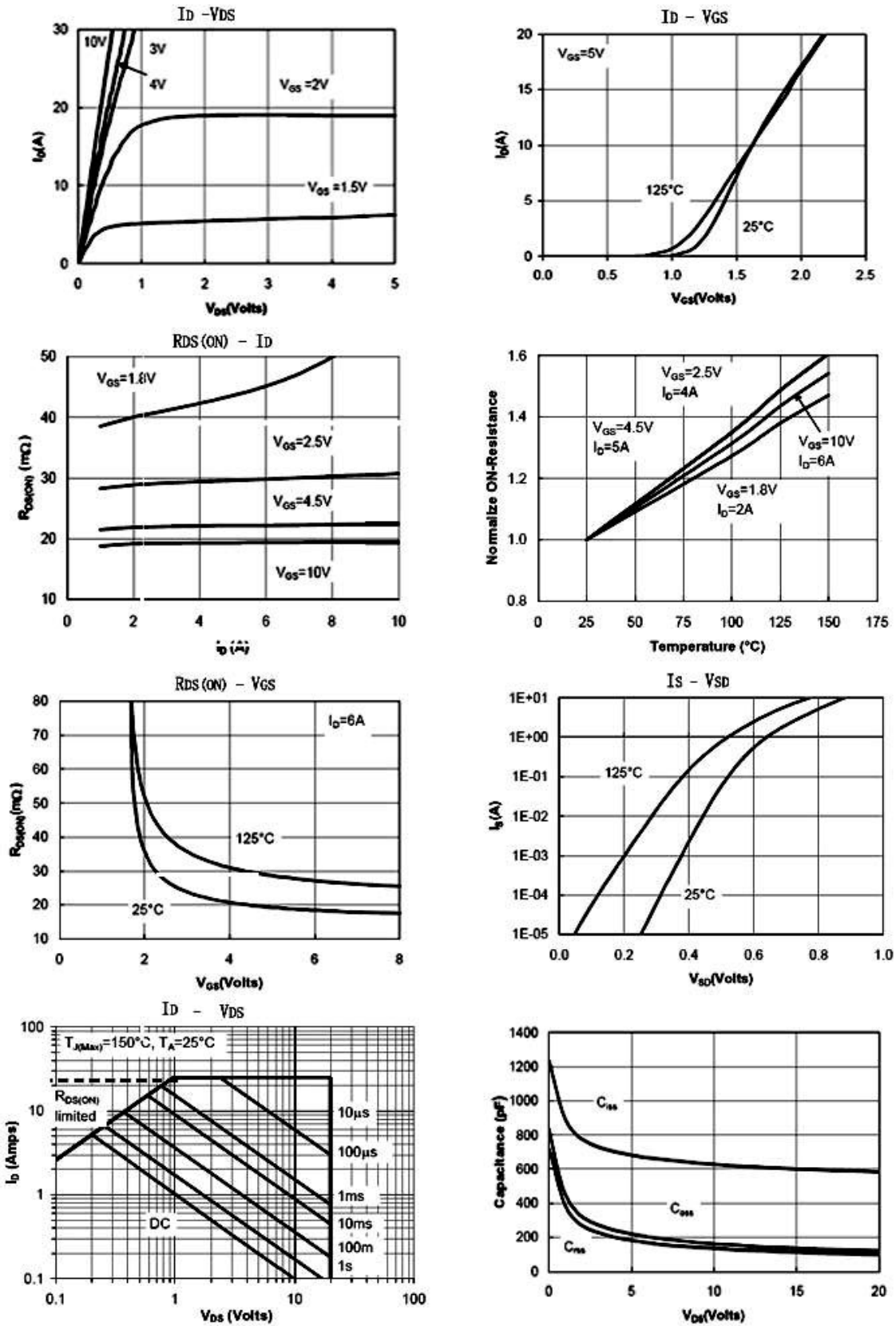
Absolute Maximum Ratings(Ta=25°C)

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	°C

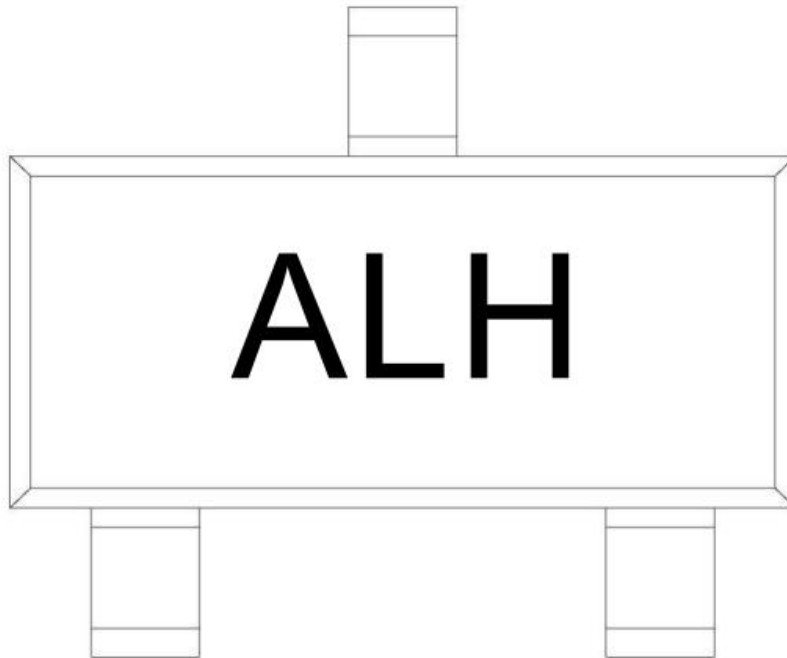
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V \quad I_D=250\mu A$	20			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=16V \quad V_{GS}=0V$			1.0	μA
		$V_{DS}=16V \quad V_{GS}=0V$ $T_J=55^\circ\text{C}$			5.0	μA
Gate-Body Leakage.	I_{GSS}	$V_{GS}=\pm 12V \quad V_{DS}=0V$			± 0.1	μA
On-State Drain Current	$I_{D(on)}$	$V_{GS}=4.5V \quad V_{DS}=5V$	25			A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS} \quad I_D=250\mu A$	0.5	0.7	1	V
Static Drain-Source On-Resistance	$R_{DS(on)1}$	$V_{GS}=10V \quad I_D=6A$		18	24	m Ω
	$R_{DS(on)2}$	$V_{GS}=10V \quad I_D=6A$ $T_J=125^\circ\text{C}$		29	35	
	$R_{DS(on)3}$	$V_{GS}=4.5V \quad I_D=5A$		20	27	
Forward Transconductance	g_{FS}	$V_{DS}=5V \quad I_D=3.8A$		24		S
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V \quad I_S=1A$		0.75	1	V
Input Capacitance	C_{iss}	$V_{DS}=10V \quad V_{GS}=0V$ $f=1\text{MHz}$		630		pF
Output Capacitance	C_{oss}			164		
Reverse Transfer Capacitance	C_{rss}			137		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=5V \quad R_L=1.7\Omega$ $V_{DS}=10V \quad R_{GEN}=6\Omega$		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



Marking Instructions



Note:

AL: Product Type Code

H: Company Code.

Packaging SPEC

REEL INFORMATION

Package Type	Units					Dimension (unit: mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23-3	3,000	10	30,000	4	120,000	7" x8	210x205x205	445x230x435

Package Outline Dimensions

