

Descriptions

This -20V -3.5A P-Channel MOSFET in a SOT-23-3 Plastic Package.

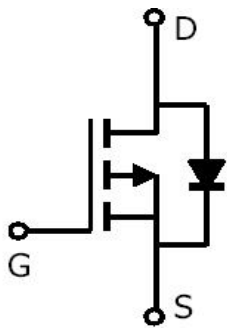
Features

- Trench FET@ Power MOSFET
- Halogen-Free Product.

Applications

Primarily the display screen drive applications.

Equivalent Circuit



Pinning



PIN1: Gate

PIN 2: Source

PIN 3: Drain

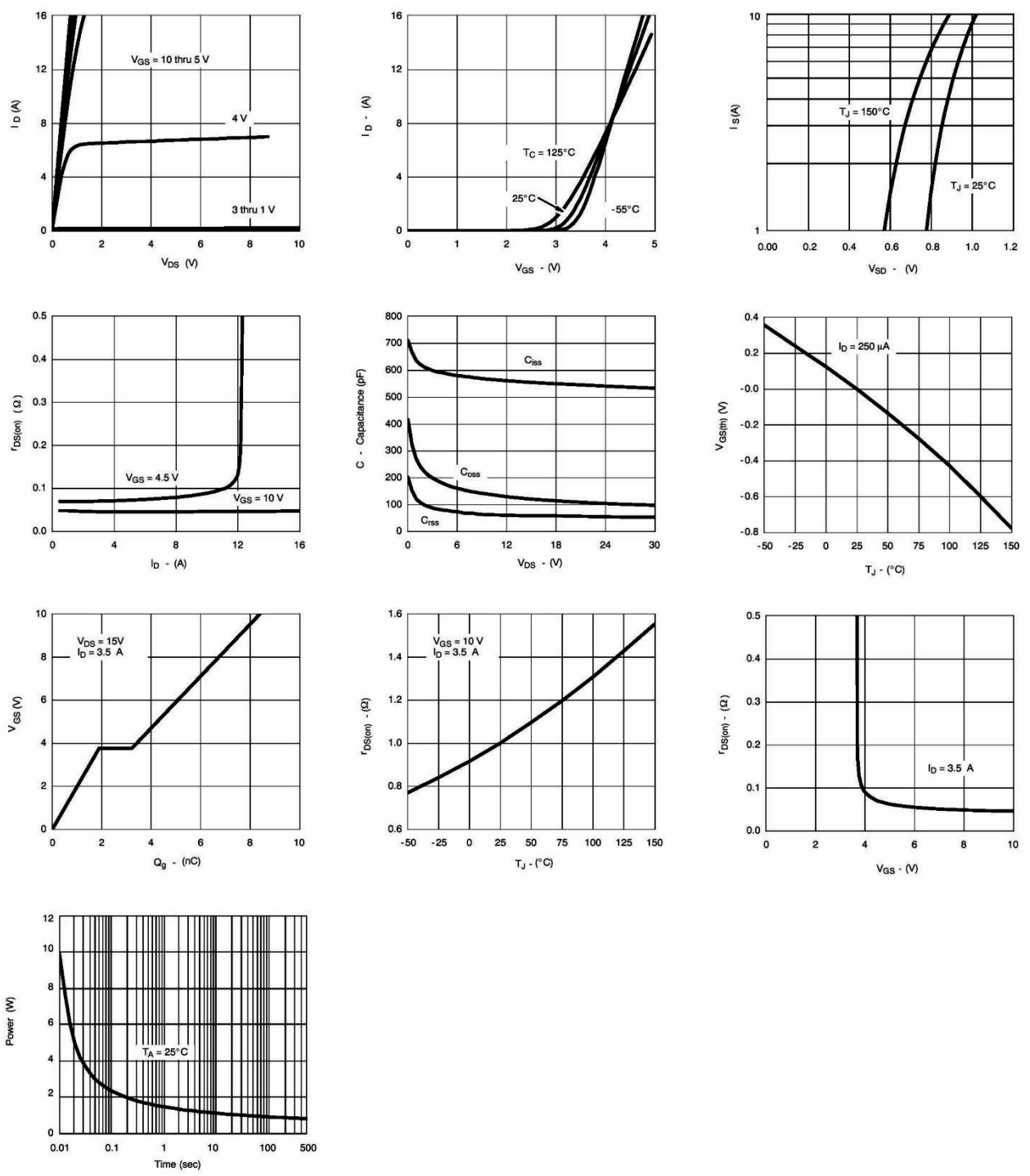
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	-20	V
Gate-Source Voltage	V_{GSS}	±12	V
Drain Current – Continuous	I_D	-3.5	A
Drain Current – Continuous	$I_D(T_A=70^\circ\text{C})$	-2.8	A
Pulsed Drain Current	I_{DM}	-16	A
Continuous Source Current	I_S	1.25	A
Power Dissipation	P_D	1.25	W
Power Dissipation	$P_D(T_A=70^\circ\text{C})$	0.80	W
Storage Temperature Range	T_{stg}	-55 ~ 150	°C

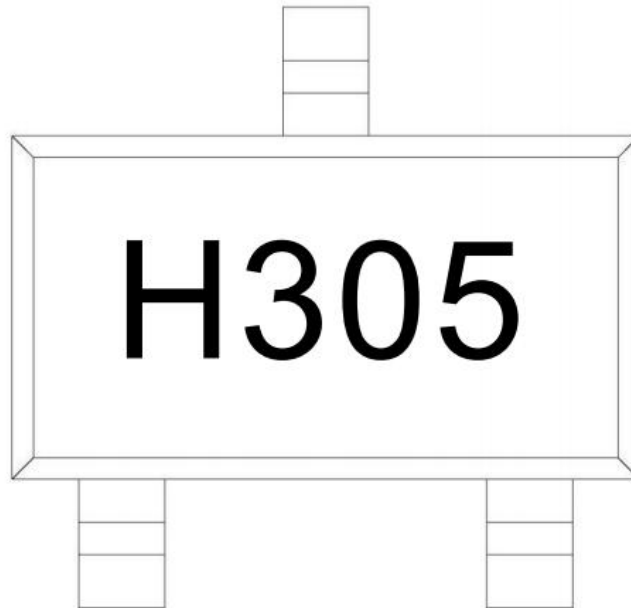
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V$ $I_D=250\mu A$	-20			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	-0.4		-1.0	V
Static Drain-Source On-Resistance	$R_{DS(on)1}$	$V_{GS}=10V$ $I_D=3.5A$			30	mΩ
	$R_{DS(on)2}$	$V_{GS}=4.5V$ $I_D=2.8A$			40	mΩ
Zero Gate Voltage Drain Current	$I_{DSS(1)}$	$V_{DS}=20V$ $V_{GS}=0V$			1	μA
	$I_{DSS(2)}$	$V_{DS}=30V$ $V_{GS}=0V$ $T_j=55^\circ\text{C}$			30	μA
Gate-Body Leakage.	I_{GSS}	$V_{GS}=\pm 12V$ $V_{DS}=0V$			±0.1	μA
State Drain Current	$I_{D(1)}$	$V_{DS}\geq 4.5V$ $V_{GS}=10V$	-6			A
	$I_{D(2)}$	$V_{DS}\geq 4.5V$ $V_{GS}=4.5V$	-3			A
Drain-Source Diode Forward Voltage	V_{SD}	$I_S=1.25A$ $V_{GS}=0V$		-0.8	-1.2	V
Forward Transconductance	g_{FS}	$V_{DS}=4.5V$ $I_D=3.5A$		6.5		S
Gate Resistance	R_g		0.5		2.4	Ω
Input Capacitance	C_{iss}	$V_{DS}=15V$ $V_{GS}=0V$ $f=1.0\text{MHz}$		415		pF
Output Capacitance	C_{oss}			223		
Reverse Transfer Capacitance	C_{rss}			84		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=15V$ $R_L=15\Omega$ $I_D\approx 1.0A$ $V_{GEN}=10V$ $R_G=6.0\Omega$		13	25	ns
Turn-On Rise Time	t_r			36	60	
Turn-Off Delay Time	$t_{d(off)}$			42	70	
Turn-Off Fall Time	t_f			34	60	

Electrical Characteristic Curve



Marking Instructions



Note:

H: Company Code.

305: Product Type

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
SOT23-3	3,000	10	30,000	4	120,000	7" ×8	210×205×205	445×230×435

Package Outline Dimensions

