

SE2305
20V P-Channel Enhancement-Mode MOSFET

Revision:A

General Description

SE2305 is produced with high cell density DMOS trench technology, which is especially used to minimize on-state resistance. This device particularly suits low voltage applications such as portable equipment, power management and other battery powered circuits, and low in-line power dissipation are needed in a very small outline surface mount

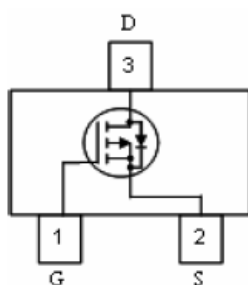
Features

- $V_{DS} = -20V$
- $R_{DS(on)} = 52m\Omega @ V_{GS} = -1.8V, I_D = -2A$
- $R_{DS(on)} = 40m\Omega @ V_{GS} = -2.5V, I_D = -4.1A$
- $R_{DS(on)} = 35m\Omega @ V_{GS} = -4.5V, I_D = -4.7A$

Application

- Load Switch
- A Switch and Battery Switch for Portable Devices

Pin configurations(SOT23-3)

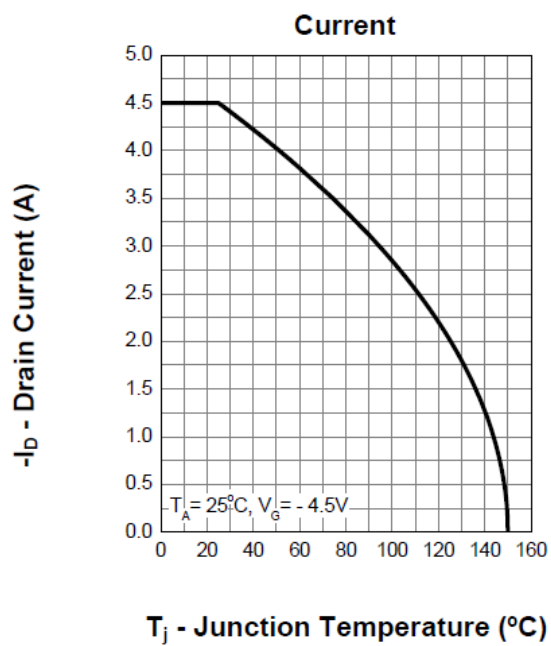
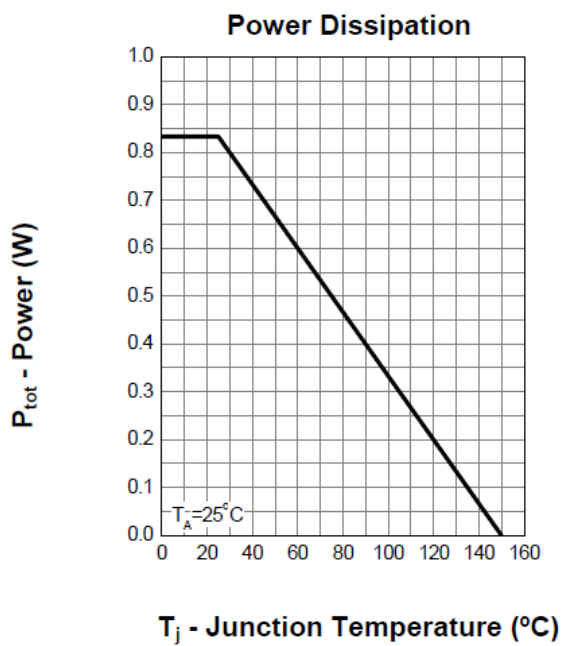


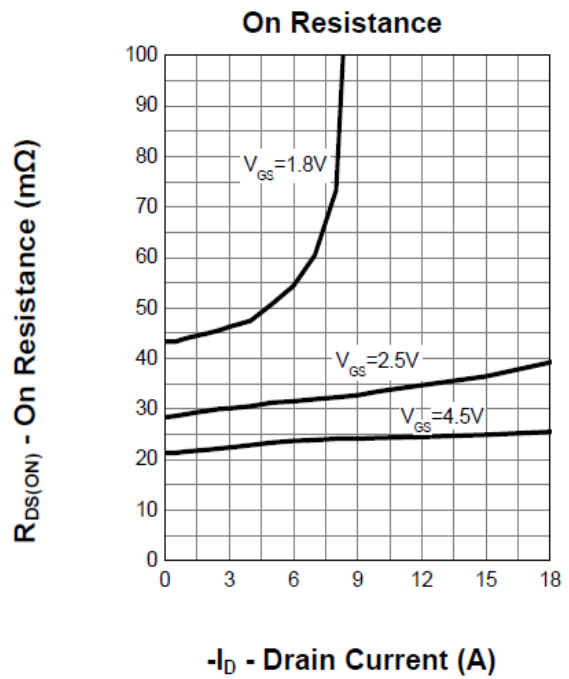
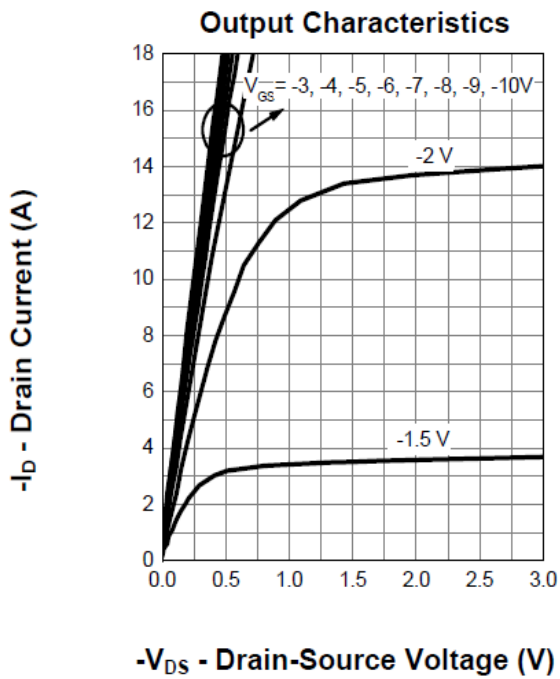
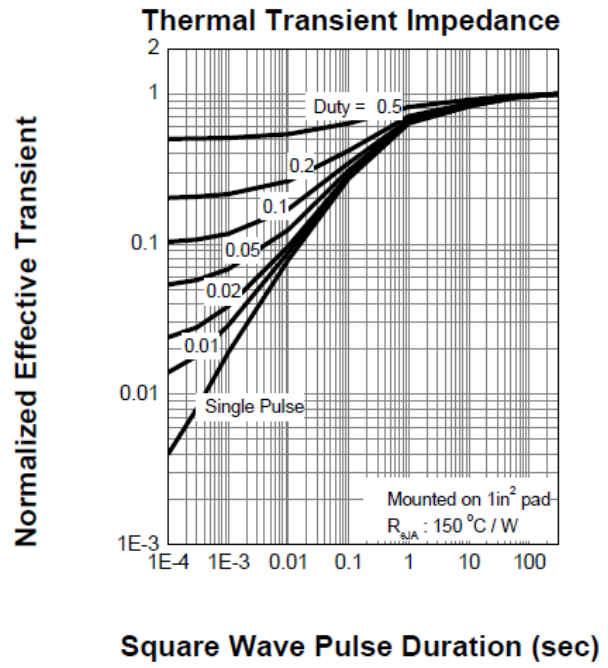
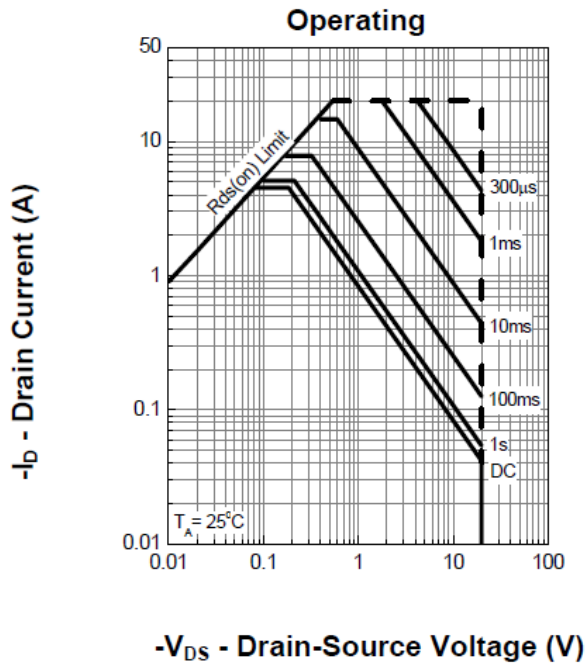
Absolute Maximum Ratings

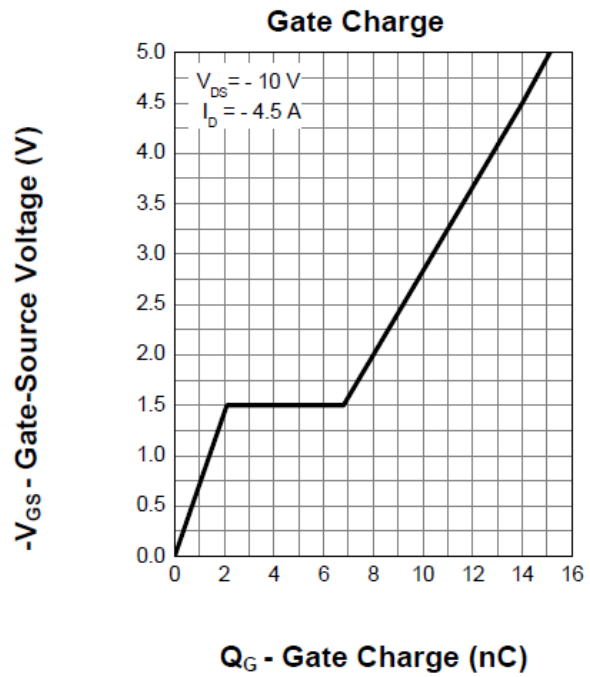
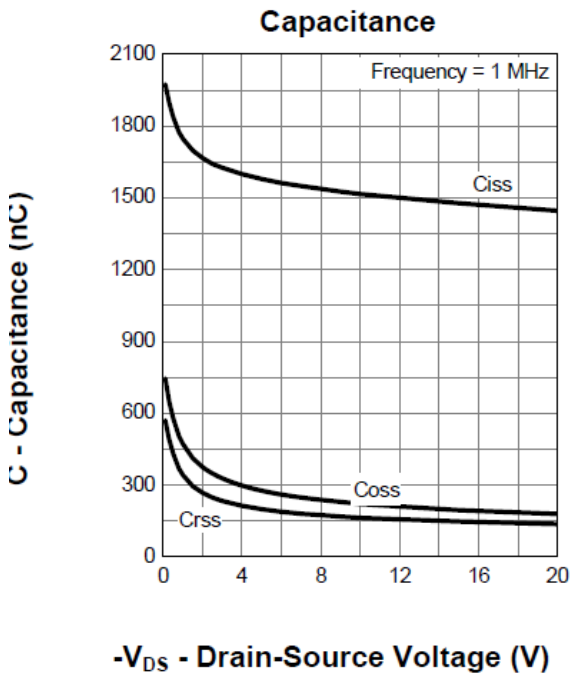
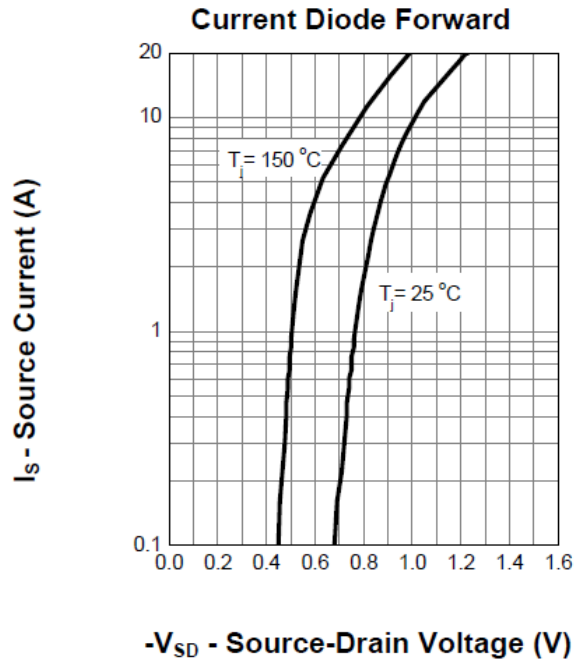
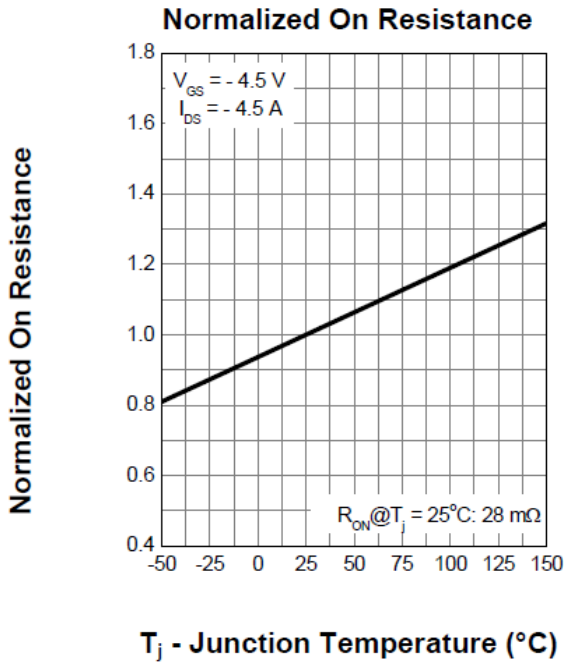
Parameter		Symbol	Rating	Units
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	±12	V
Drain Current (Note 1)	Continuous	I_D	-4.7	A
	Pulsed		-20	
Total Power Dissipation	@TA=25°C	P_D	1.25	W
	@TA=75°C		0.8	
Operating Junction Temperature Range		T_J	-55 to 150	°C

Electrical Characteristics (T _J =25°C unless otherwise noted)						
Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS (Note 2)						
BVDSS	Drain-Source Breakdown Voltage	I _D =-250μA, V _{GS} =0 V	-20	-	-	V
IDSS	Zero Gate Voltage Drain Current	V _{DS} =-16 V, V _{GS} =0 V	-	-	1	μA
IGSS	Gate-Body leakage current	V _{DS} =0 V, V _{GS} =±8 V	-	-	±100	μA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} I _D =-250μA	-0.4	-	-1	V
R _{DS(ON)}	Static Drain-Source On-Resistance ²	V _{GS} =-1.8V, I _D =-2A	-	42	52	mΩ
		V _{GS} =-2.50V, I _D =-4.1A		35	40	
		V _{GS} =-4.5V, I _D =-4.7A	-	30	35	
DYNAMIC PARAMETERS						
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =-10V, f=1MHz	-	1020	-	pF
C _{oss}	Output Capacitance		-	191	-	pF
C _{rss}	Reverse Transfer Capacitance		-	140	-	pF
SWITCHING PARAMETERS						
t _{d(on)}	Turn-On DelayTime ²	V _{GS} =-10V, V _{GEN} =-4.5V, R _L =10Ω, R _G =6Ω	-	25	50	ns
t _{d(off)}	Turn-Off DelayTime		I _D =-1A	-	71	
V _{SD}	Drain-Source Diode Forward Voltage	V _{GS} =0V, I _S =-1		-	-1.2	V

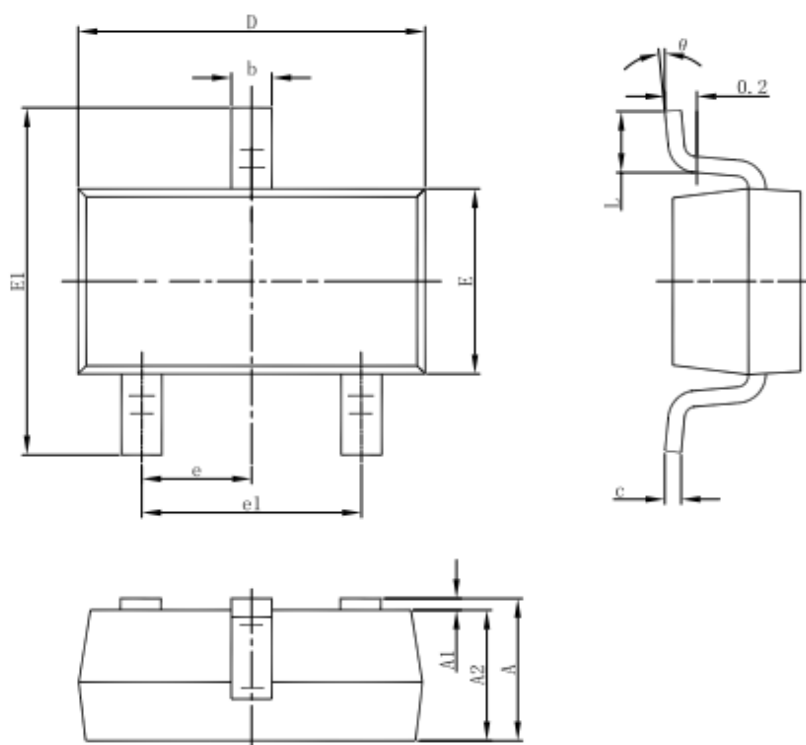
Typical Characteristics







PACKAGE:(SOT23-3)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

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