

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
20V	380mΩ@4.5V	0.75A
	450mΩ@2.5V	
	800mΩ@1.8V	

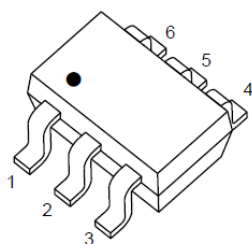
Feature

- Surface Mount Package
- N-Channel Switch with Low $R_{DS(on)}$
- Operated at Low Logic Level Gate Drive
- ESD Protected

Application

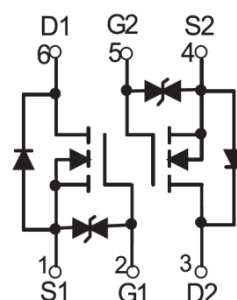
- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

Package

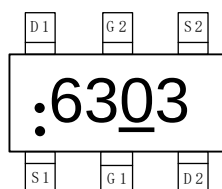


SOT-363

Circuit diagram



Marking



6303 =Device Code

**Absolute maximum ratings (Ta=25°C unless otherwise noted)**

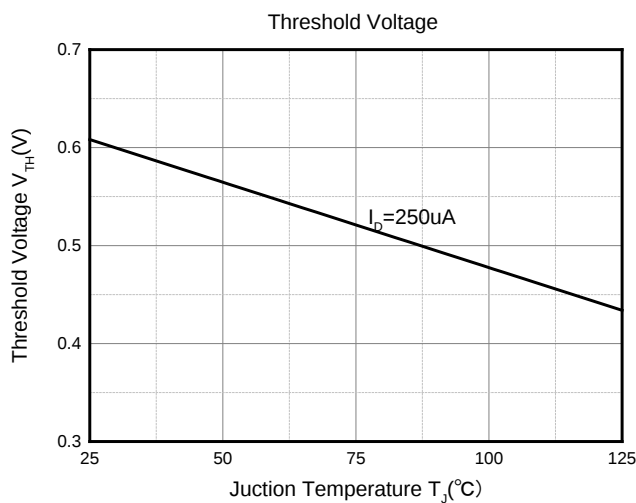
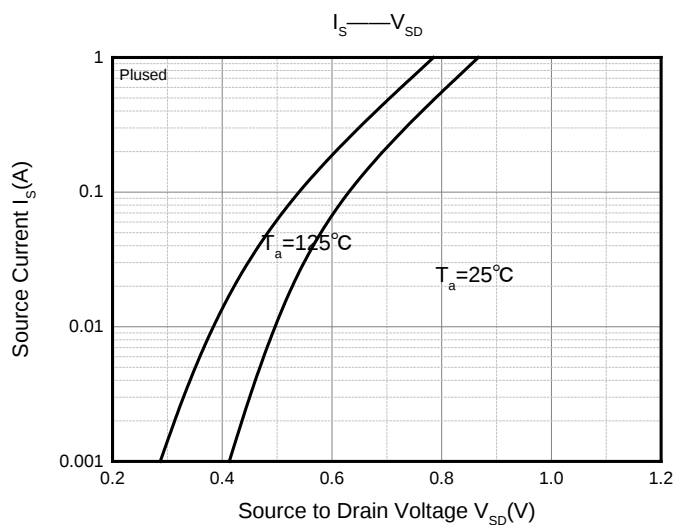
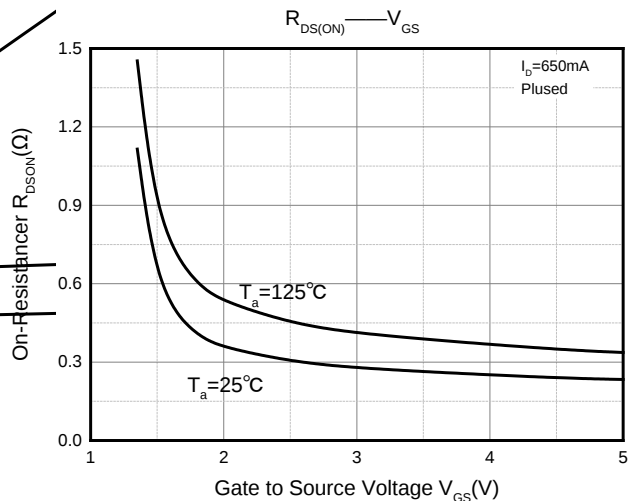
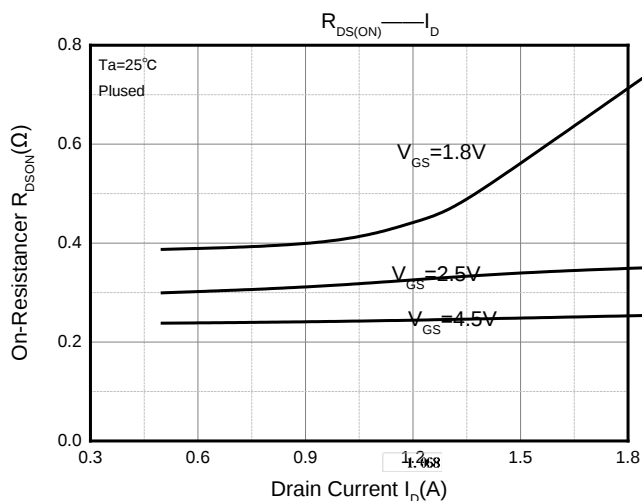
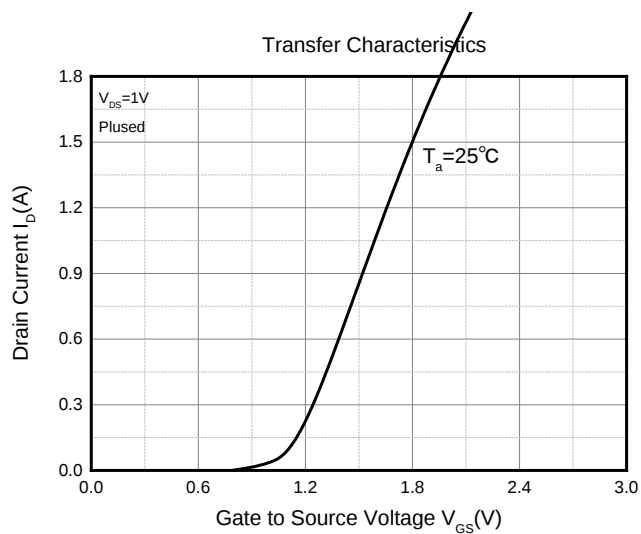
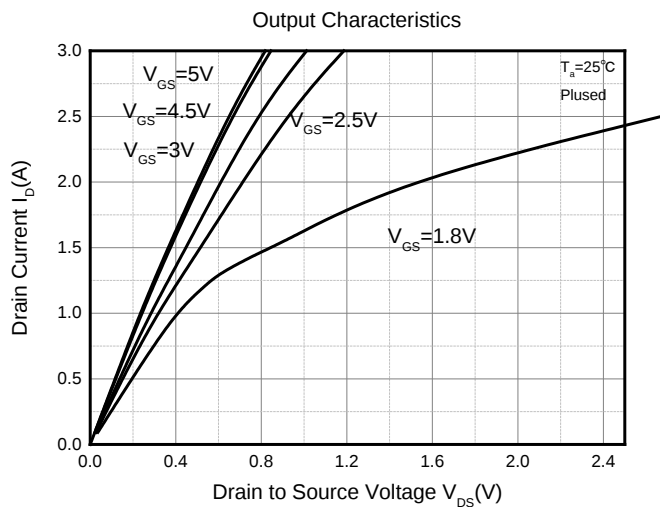
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	0.75	A
Pulsed Drain Current	I_{DM}	0.18	A
Power Dissipation	P_D	0.2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =16V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±10V, V _{DS} = 0V			±10	uA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.3	0.65	1	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} = 4.5V, I _D = 0.5A		0.25	0.38	Ω
		V _{GS} =2.5V, I _D = 0.5A		0.35	0.45	
		V _{GS} =1.8V, I _D = 0.5A		0.4	0.8	
		V _{GS} =1.5V, I _D = 0.5A		0.5		
		V _{GS} =1.2V, I _D = 0.5A		1		
Dynamic characteristics						
Input Capacitance	C _{iss}	V _{DS} =16V, V _{GS} =0V, f=1MHz		79	120	pF
Output Capacitance	C _{oss}			13	20	
Reverse Transfer Capacitance	C _{rss}			9	15	
Switching Characteristics						
Turn-on delay time	t _{d(on)}	V _{GS} =4.5V, V _{DS} =10V, I _D =500mA, R _{GEN} =10Ω		6.7		ns
Turn-on rise time	t _r			4.8		
Turn-off delay time	t _{d(off)}			17.3		
Turn-off fall time	t _f			7.4		
Source-Drain Diode characteristics						
Body Diode Voltage	V _{SD}	I _S =0.5A, V _{GS} = 0V		0.7	1.3	V

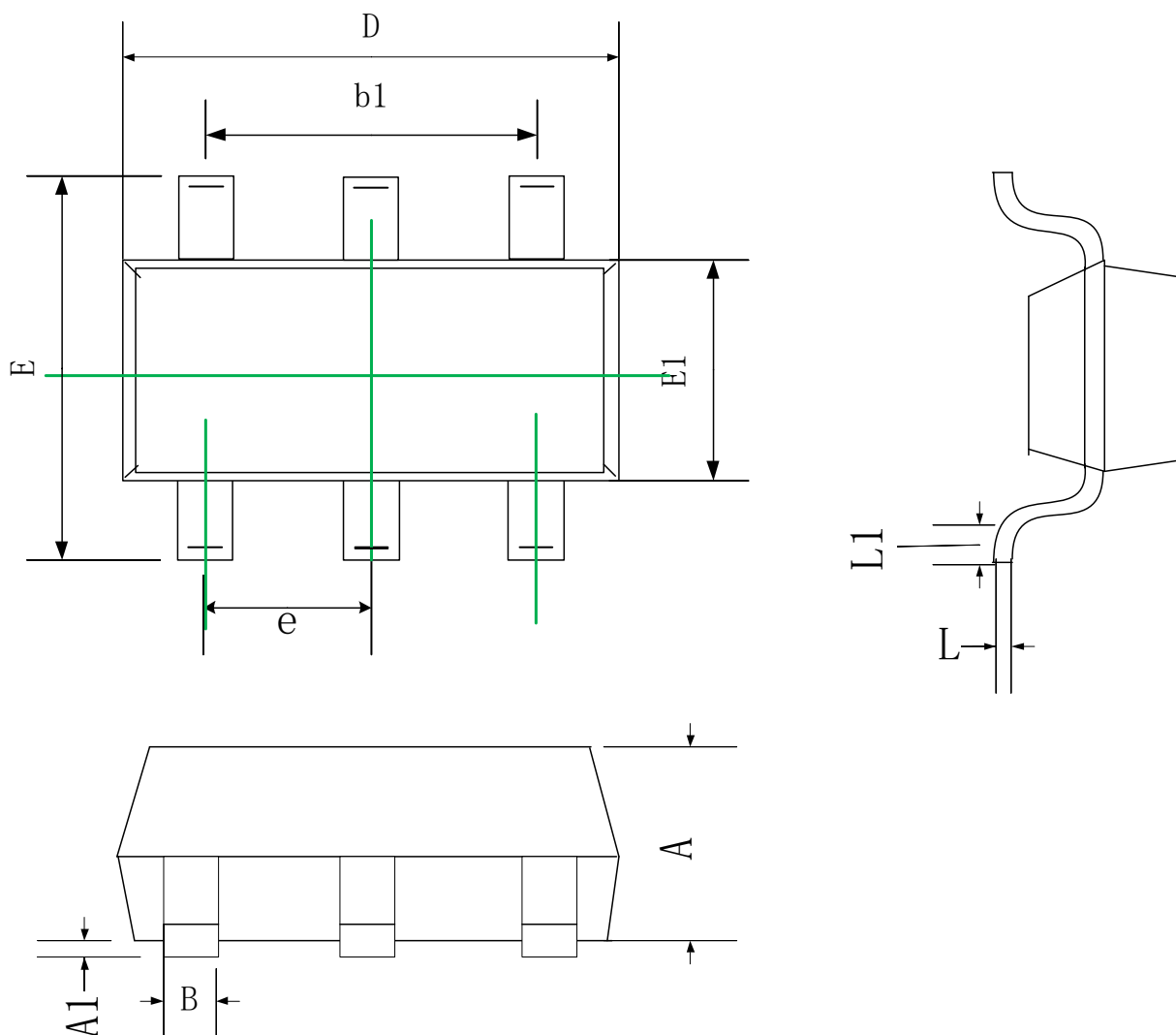


Typical Characteristics





SOT-363 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.00
A1	0.00	0.10
B	0.10	0.30
b1	1.30	
D	1.80	2.20
E	2.00	2.20
E1	1.15	1.35
e	0.65 TYP.	
L	0.10	0.25
L1	0.15	0.4