ACE636B

Common Drain Dual N-Channel Enhancement Mode Field Effect

Description

Advanced trench process technology. High Density Cell Design For Ultra Low On-Resistance. High Power and Current handing capability. Fully Characterized Avalanche Voltage and Current. Small Surface Mount Package

Features

- V_{DS} 20V, I_D =6A
- $R_{DS(ON)}$=22mΩ @V_{GS}=4.5V
- $R_{DS(ON)}$=30mΩ @V_{GS}=2.5V
- For a single mosfet

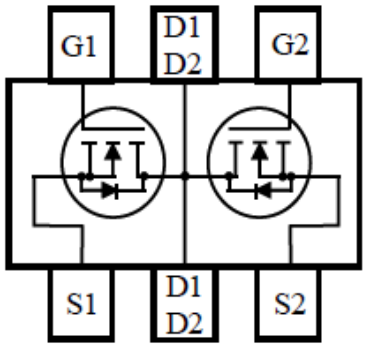
Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Drain-Source Voltage	V_{DSS}	20	V
Gate-Source Voltage	V_{GSS}	±12	V
Drain Current (Note 1), Continuous	I_D	6	A
Total Power Dissipation (Note1)	P_D	650	mW
Operating and Storage Temperature Range	T_J/T_{STG}	-55/150	^oC

Note: Mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

Packaging Type

SOT-23-6L



Ordering information

ACE636B XX + H

- Halogen - free
- Pb - free
- GM : SOT-23-6L

Electrical Characteristics

T_A=25℃, unless otherwise noted.

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Off characteristics (Note 2)						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250 uA	20			V
Gate Leakage Current	I_{GSS}	V_{DS}=0V,V_{GS}=±12V			±100	uA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V, V_{GS}=0V			1	uA
On characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_{DS}=250uA	0.6		1.2	V
Forward Transconductance	G_{FS}	V_{DS}=10V, I_D=6A	7	13		S
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=4.5V, I_D=6A		22	50	mΩ
		V_{GS}=2.5V, I_D=5.2A		30	65	
Drain-Source Diode Characteristics And Maximum Ratings						
Diode Forward Voltage	V_{SD}	I_S=2A, V_{GS}=0V	0.5	0.77	1	V
Switching characteristics						
Turn-On Delay Time	td(on)	R_G=6Ω, V_{DD}=10V, V_{GEN}=4.5V, I_D=1A		18		nS
Turn-Off Delay Time	td(off)			25		
Dynamic characteristics						
Input Capacitance	Ciss	V_{GS}=0V, V_{DS}=8V, f=1MHz		562		pF
Output Capacitance	Coss			106		
REVERSE Transfer Capacitance	Crss			75		
Total Gate Charge	Q_G	V_{DS}=10V, I_D=6A, V_{GS}=4.5V		4.86		nC
Gate-Source Charge	Q_{GS}			0.92		
Gate-Drain	Q_{GD}			1.4		

Note: 2. Short duration test pulse used to minimize self-heating effect.

Typical Performance Characteristics

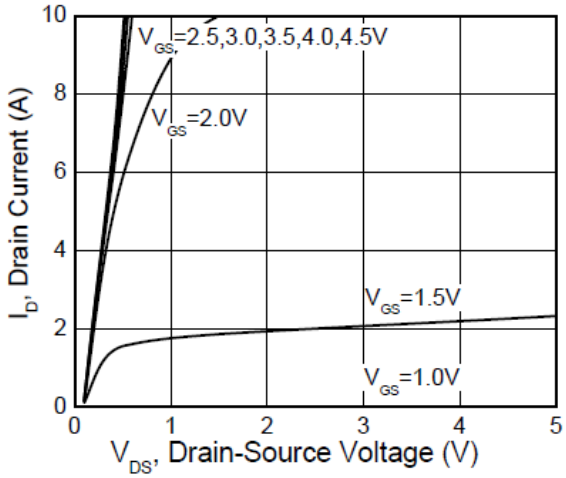


Figure 1. Output Characteristics

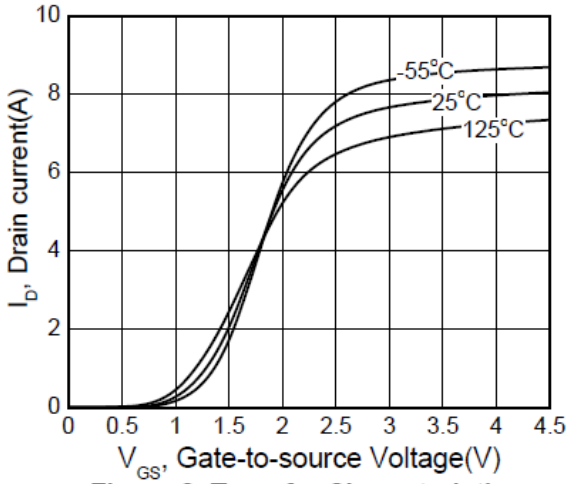


Figure 2. Transfer Characteristics

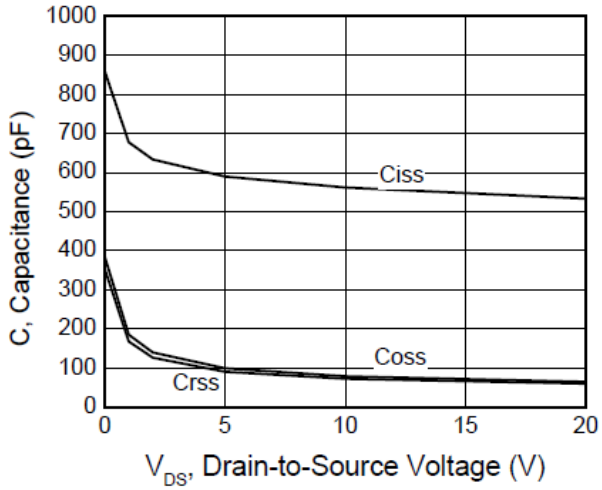


Figure 3. Capacitance

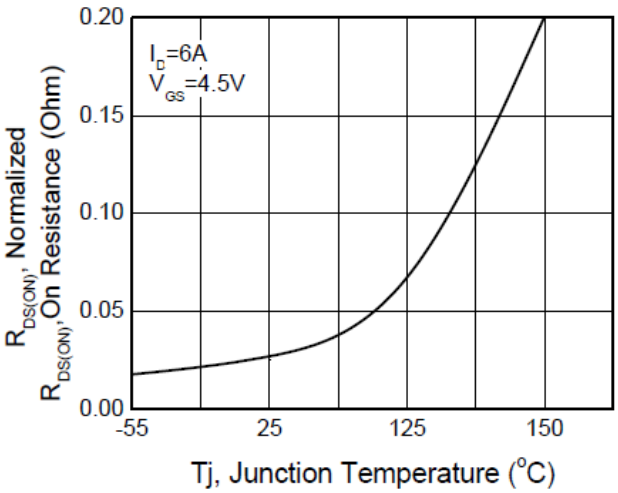


Figure 4. On Resistance Vs. Temperature

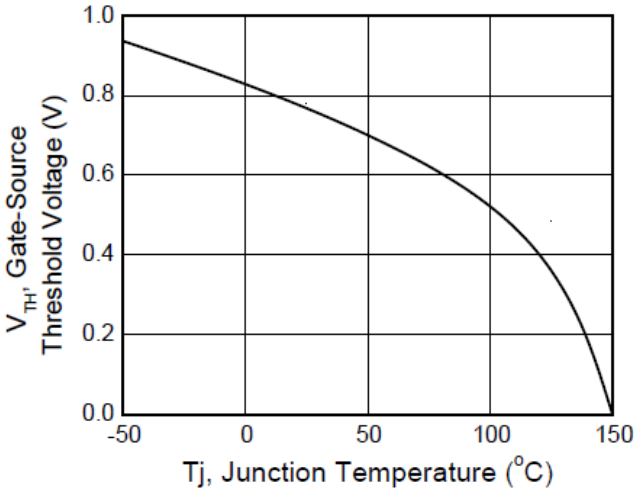


Figure 5. Gate Thershold Vs. Temperature

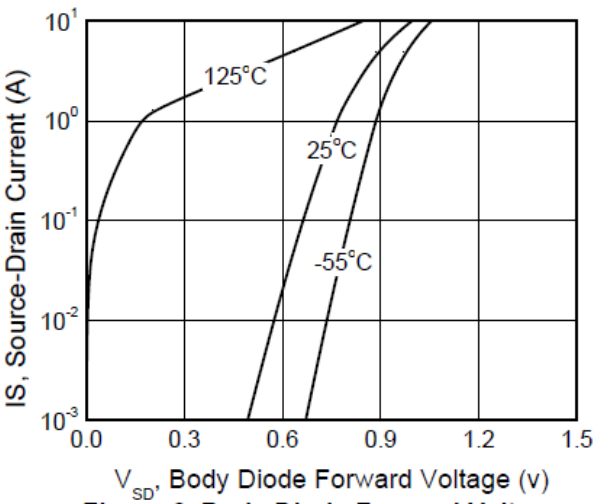
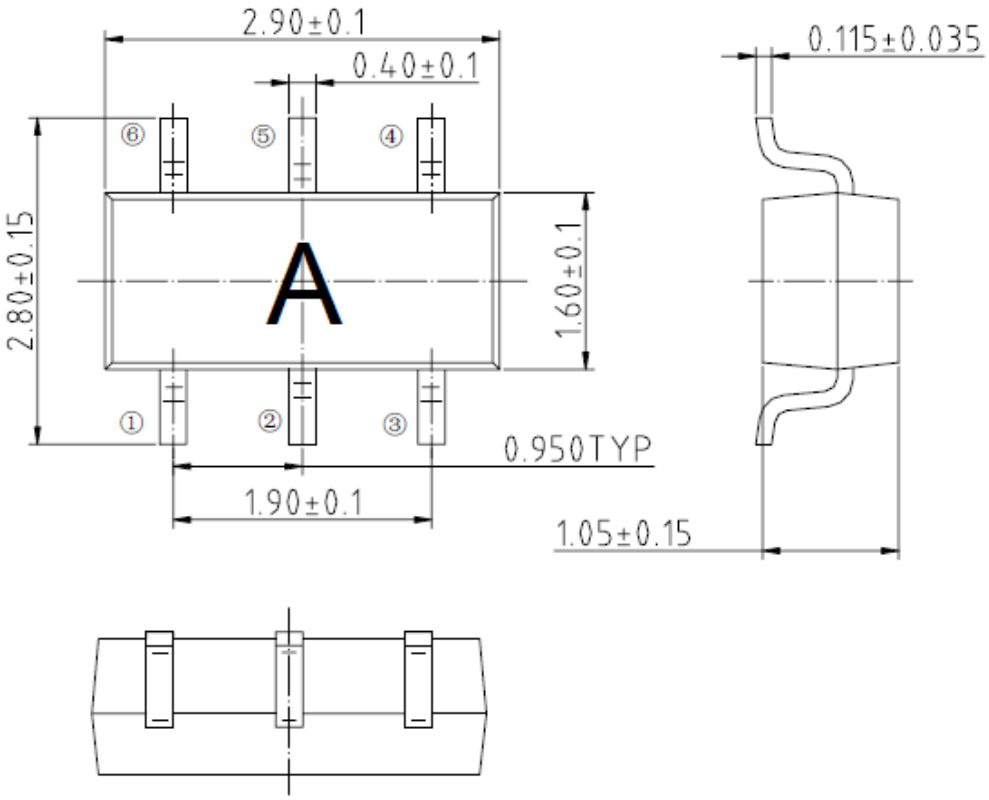


Figure 6. Body Diode Forward Voltage Vs. Source Current

Packing Information

SOT-23-6L



Unit: mm

Notes

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1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and shoes failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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