WST2006

Dual N-Channel MOSFET

General Description

The WST2006 is the highest performance trench N-ch MOSFET with extreme high cell density , which provide excellent RDSON and gate charge for most of the small power switching and load switch applications.

The WST2006 meet the RoHS and Green Product requirement with full function reliability approved.

Features

- Advanced high cell density Trench technology
- Super Low Gate Charge
- Excellent Cdv/dt effect decline
- Green Device Available

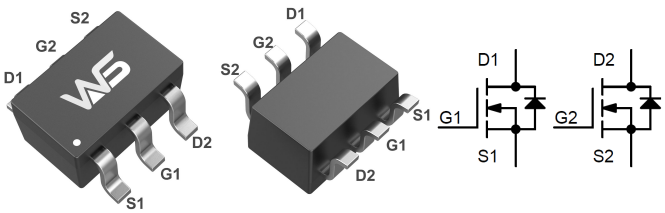
Product Summery

BVDSS	RDSON	ID
30V	5.5Ω	170mA

Applications

- High Frequency Point-of-Load Synchronous Small power switching for MB/NB/UMPC/VGA
- Networking DC-DC Power System
- Load Switch

SOT-363 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_A=25℃	Continuous Drain Current, V_{GS} @ 4.5V[1]	0.17	A
I_D@T_A=70℃	Continuous Drain Current, V_{GS} @ 4.5V[1]	0.1	A
I_{DM}	Pulsed Drain Current[2]	0.8	A
P_D@T_A=25℃	Total Power Dissipation[3]	0.2	W
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	-55 to 150	℃

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient [1]	---	625	℃/W
$R_{\theta JC}$	Thermal Resistance Junction-Case[1]	---	240	℃/W

Electrical Characteristics (T_J=25 ℃, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V , I_D=250uA	30	---	---	V
$\triangle BV_{DSS}/\triangle T_J$	BVDSS Temperature Coefficient	Reference to 25℃ , I_D=1mA	---	0.02	---	V/℃
$R_{DS(ON)}$	Static Drain-Source On-Resistance[2]	V_{GS}=10V , I_D=1.5A	---	5.5	7.5	Ω
		V_{GS}=5V , I_D=1A	---	---	13.5	
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =250uA	1.0	1.5	2.0	V
$\triangle V_{GS(th)}$	$V_{GS(th)}$ Temperature Coefficient		---	-2.5	---	mV/℃
I_{DSS}	Drain-Source Leakage Current	V_{DS}=30V , V_{GS}=0V , T_J=25℃	---	---	1	uA
		V_{DS}=30V , V_{GS}=0V , T_J=125℃	---	---	500	
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±20V , V_{DS}=0V	---	---	±10	nA
$T_{d(on)}$	Turn-On Delay Time	V_{DD}=30V , V_{GS}=10V ,	---	2	4.0	ns
$T_{d(off)}$	Turn-Off Delay Time	R_G=150Ω ,I_D=0.2A	---	10	20	
C_{iss}	Input Capacitance	V_{DS}=25V , V_{GS}=0V , f=1MHz	---	22	50	pF
C_{oss}	Output Capacitance		---	11	25	
C_{rss}	Reverse Transfer Capacitance		---	2.0	5.0	

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

Typical Characteristics

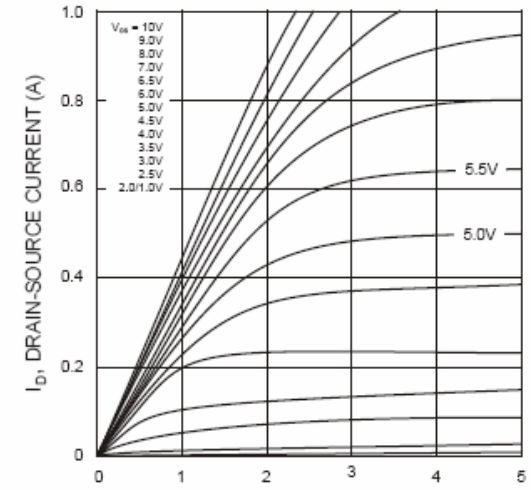


Fig. 1 On-Region Characteristics

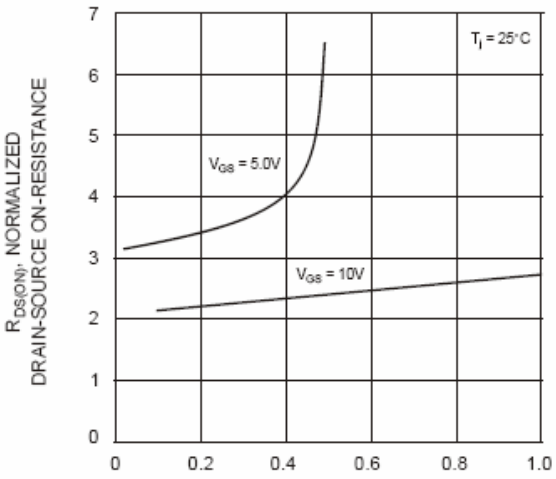


Fig. 2 On-Resistance vs Drain Current

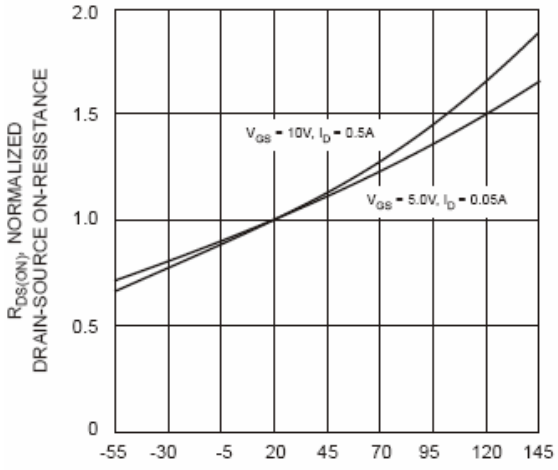


Fig. 3 On-Resistance vs Junction Temperature

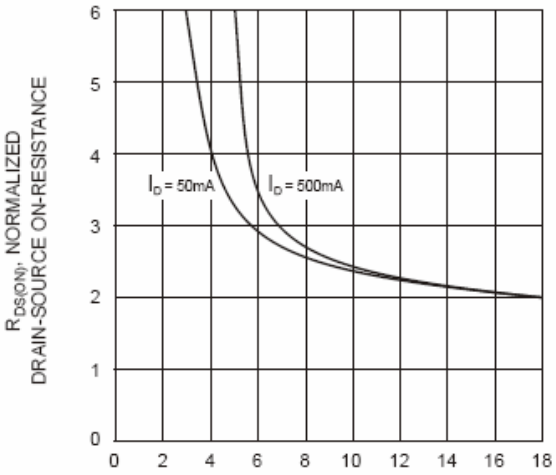
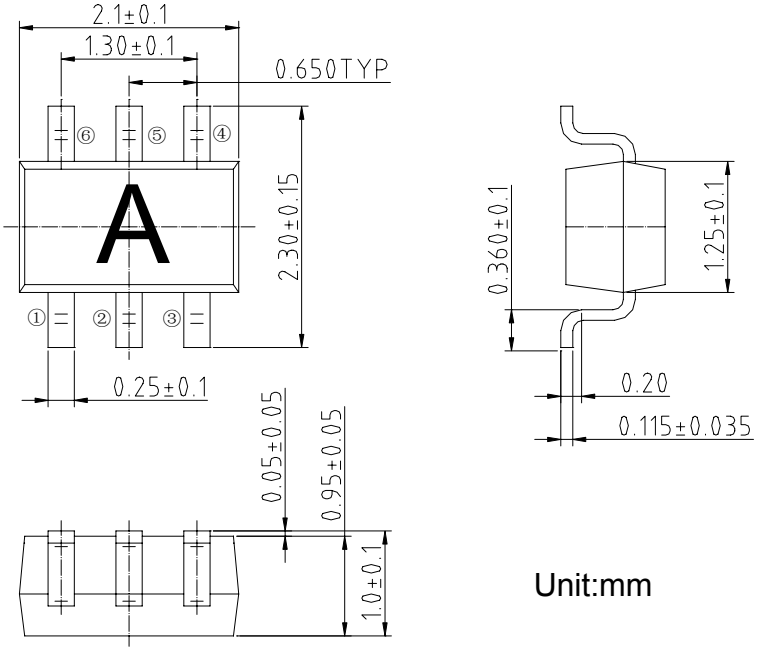


Fig. 4 On-Resistance vs. Gate-Source Voltage

Package Information: SOT-363



Unit:mm

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