

General Description

The H is P-Channel enhancement mode power MOSFET which is produced with high cell density and DMOS trench technology. This device particularly suits low voltage applications, especially for battery powered circuits, the tiny and thin outline saves PCB consumption. are electrically identical.
-RoHS Compliant

Features

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

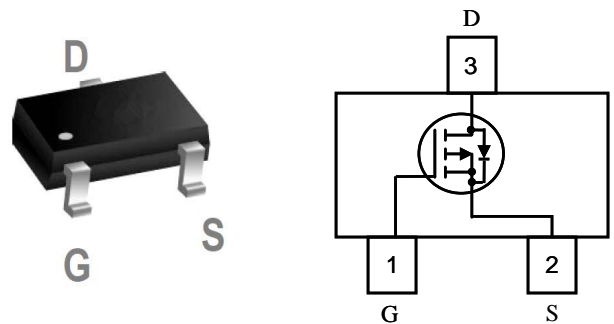
Product Summary

BVDSS	RDSON	ID
-20V	155mΩ	-1.6A

Applications

- High Frequency Point-of-Load Synchronous Small power switching for MB/NB/UMPC/VGA
- A Switch and Battery Switch for Portable Devices
- Load Switch

SOT-323 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-20	V
V_{GS}	Gate-Source Voltage	± 12	V
$I_D@T_c=25^\circ C$	Continuous Drain Current, $V_{GS} @ -4.5V^1$	-1.6	A
I_{DM}	Pulsed Drain Current ²	-5	A
$P_D@T_A=25^\circ C$	Total Power Dissipation ³	350	mW
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ C$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ C$

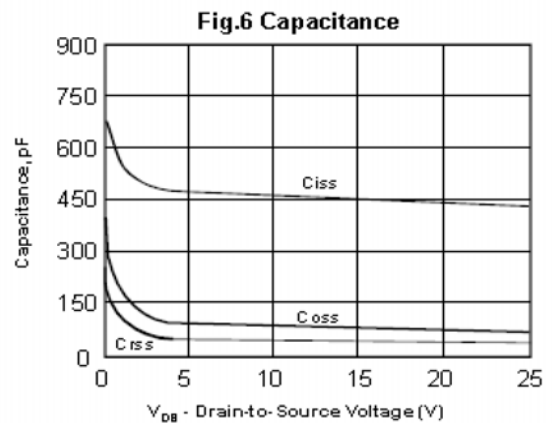
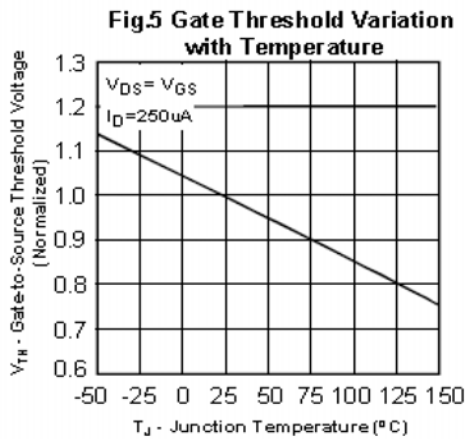
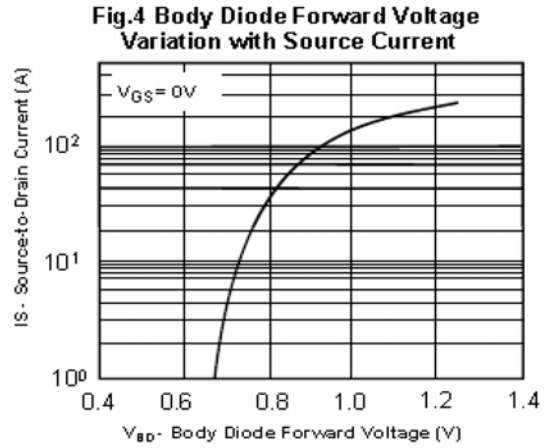
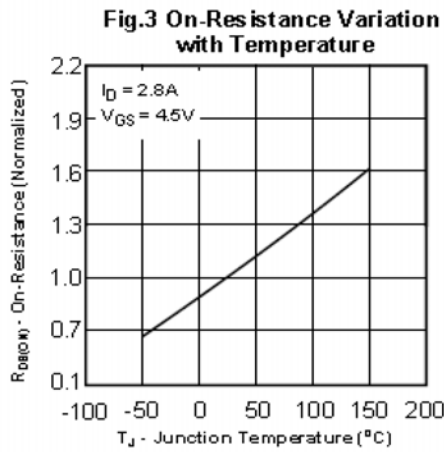
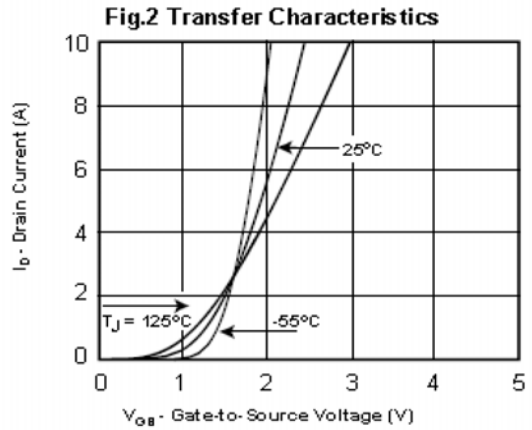
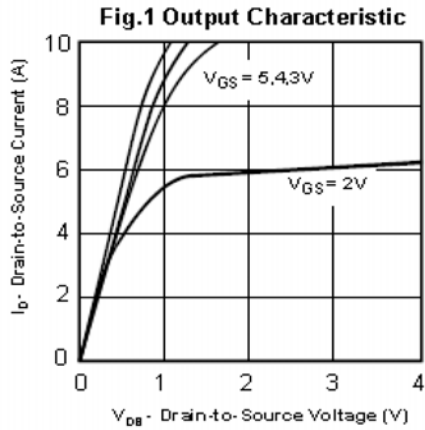
Electrical Characteristics ($T_J=25^\circ\text{C}$, unless otherwise noted)

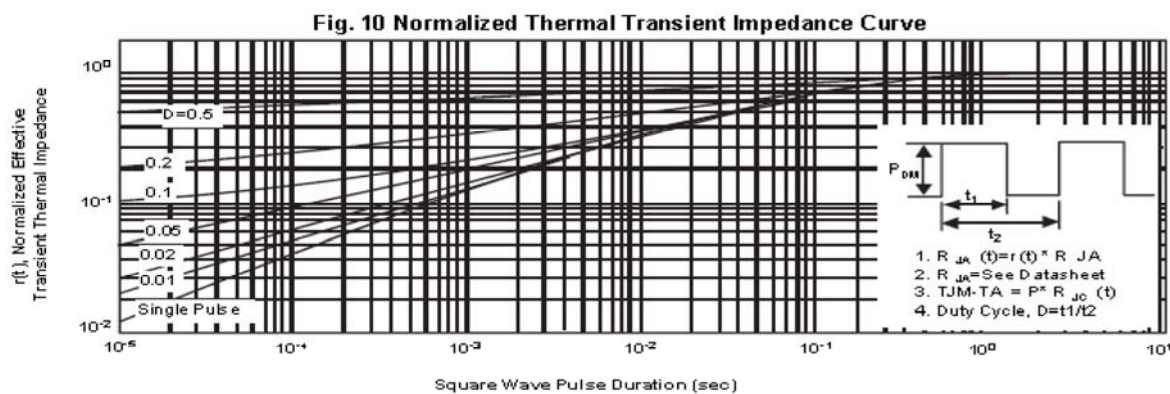
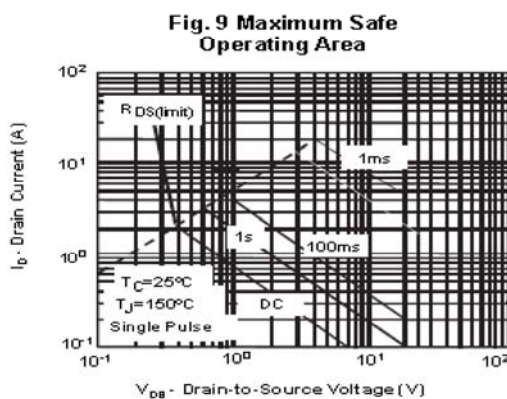
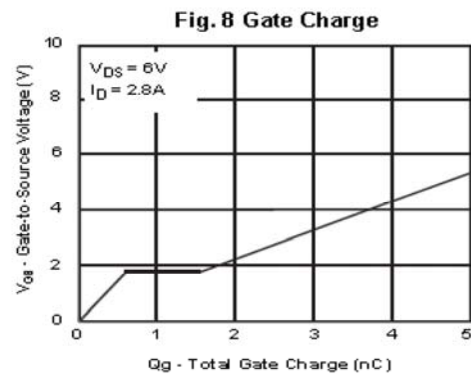
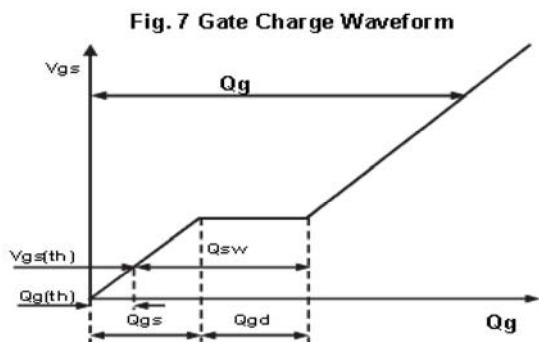
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-20	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance ²	$V_{GS}=-4.5V, I_D=-1A$	---	145	155	m Ω
		$V_{GS}=-2.5V, I_D=-0.5A$	---	150	168	
		$V_{GS}=-1.8V, I_D=-0.3A$	---	180	220	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D=-250\mu A$	-0.4	-0.7	-1	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=-20V, V_{GS}=0V, T_J=25^\circ\text{C}$	---	---	-1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 12V, V_{DS}=0V$	---	---	± 100	nA
gfs	Forward Transconductance	$V_{DS}=-5V, I_D=-2A$	---	5	---	S
Q_g	Total Gate Charge (-4.5V)	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-2.8A$	---	4.9	--	nC
Q_{gs}	Gate-Source Charge		---	0.62	--	
Q_{gd}	Gate-Drain Charge		---	1.07	--	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=-6V, V_{GS}=-4.5V,$ $R_{GEN}=6\Omega, R_L=6\Omega,$	---	10.1	--	ns
T_r	Rise Time		---	4.76	--	
$T_{d(off)}$	Turn-Off Delay Time		---	84.1	--	
T_f	Fall Time		---	25.2	--	
C_{iss}	Input Capacitance	$V_{DS}=-6V, V_{GS}=0V, f=1\text{MHz}$	---	472	--	pF
C_{oss}	Output Capacitance		---	71	--	
C_{rss}	Reverse Transfer Capacitance		---	51	--	

Note :

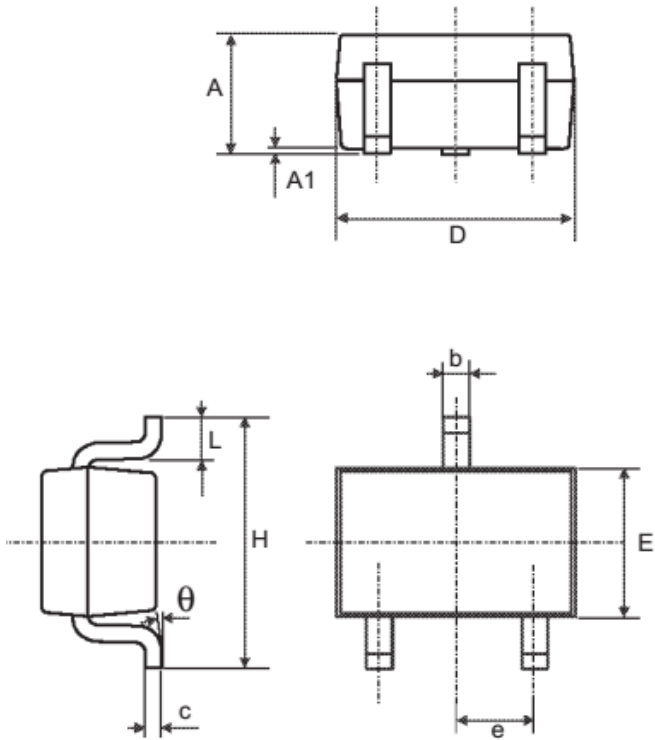
- 1.The data tested by surface mounted on a 1 inch²FR-4 board with 2OZ copper,t<10sec.
- 2.The data tested by pulsed , pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$
- 3.The power dissipation is limited by 150 $^\circ\text{C}$ junction temperature
- 4.The data is theoretically the same as I_D and I_{DM} , in real applications , should be limited by total power dissipation.

Typical Characteristics





SOT-323 Package Outline Dimensions



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.8		1.1	0.031		0.043
A1	0.0		0.1	0.0		0.004
b	0.25		0.4	0.010		0.016
c	0.1		0.26	0.004		0.010
D	1.8	2.0	2.2	0.071	0.079	0.086
E	1.15	1.25	1.35	0.045	0.049	0.053
e		0.65			0.026	
H	1.8	2.1	2.4	0.071	0.083	0.094
L	0.1	0.2	0.3	0.004	0.008	0.012
θ	0		30°	0		30°



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