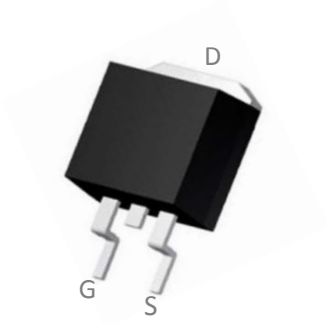
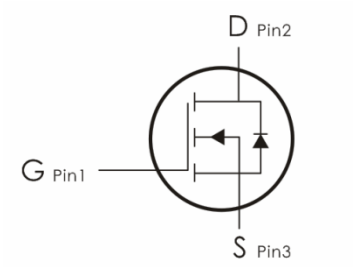
Description：

This N-Channel MOSFET uses advanced trench technology and design to provide excellent $R_{DS(on)}$ with low gate charge.

It can be used in a wide variety of applications.





Features：

1) V_{DS}=70V,I_D=80A,$R_{DS(ON)}$<7.2mΩ @V_{GS}=10V
2) Low gate charge.
3) Green device available.
4) Advanced high cell denity trench technology for ultra $R_{DS(ON)}$.
5) Excellent package for good heat dissipation.

Absolute Maximum Ratings： (T_C=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	70	V
V_{GS}	Gate-Source Voltage	±25	V
I_D	Continuous Drain Current-	80	A
	Continuous Drain Current-TC=100℃	56	
	Pulsed Drain Current[1]	320	
E_{AS}	Single Pulse Avalanche Energy[2]	410	mJ
P_D	Power Dissipation	100	W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +175	℃

Thermal Characteristics：

Symbol	Parameter	Max	Units
$R_{\theta JC}$	Thermal Resistance,Junction to Case	1.5	℃/W

Notes 1.Repetitive Rating: Pulse width limited by maximum junction temperature
2.E_{AS} condition:T_J=25℃,V_{DD}=33V,V_G=10V

Package Marking and Ordering Information：

Part NO.	Marking	Package
HAB60N62	HAB60N62	TO-263

Electrical Characteristics： (T_C=25℃ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV_{DSS}	Drain-Sourtce Breakdown Voltage	V_{GS}=0V,I_D=250μA	70	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS}=0V, V_{DS}=68V	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±25V, V_{DS}=0A	---	---	±100	nA
On Characteristics						
$V_{GS(th)}$	GATE-Source Threshold Voltage	V_{GS}=V_{DS}, I_D=250μA	2		4	V
$R_{DS(ON)}$	Drain-Source On Resistance	V_{GS}=10V,I_D=40A	---	6.2	7.2	mΩ
G_{FS}	Forward Transconductance	$V_{DS=}$10V, I_D=15A	20	---	---	S
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS}=25V, V_{GS}=0V, f=1MHz	---	3290	---	pF
C_{oss}	Output Capacitance		---	335	---	
C_{rss}	Reverse Transfer Capacitance		---	245	---	
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time	V_{DD}=30V, I_D=2A, R_{GEN}=15Ω .V_{GS}=10V	---	21	---	ns
t_r	Rise Time		---	31	---	ns
$t_{d(off)}$	Turn-Off Delay Time		---	63	---	ns
t_f	Fall Time		---	29	---	ns
Q_g	Total Gate Charge	V_{GS}=10V, V_{DS}=50V, I_D=40A	---	90	---	nC
Q_{gs}	Gate-Source Charge		---	18	---	nC
Q_{gd}	Gate-Drain “Miller” Charge		---	42	---	nC
Drain-Source Diode Characteristics						
V_{SD}	Source-Drain Diode Forward Voltage[1]	V_{GS}=0V,I_S=40A	---	0.89	0.99	V
Ls	Diode Forward Current	---	---	---	80	A

Trr	Reverse Recovery Time[1]	T_J=25℃,I_F=75A di/dt=100A/μs	---	35	---	NS
Qrr	Reverse Recovery Charge[1]		---	26	---	NC

Notes:

1.Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 1.5%, R_G=25Ω, Starting T_J=25℃

Typical Characteristics: (T_C=25℃ unless otherwise noted)

Figure1. Output Characteristics

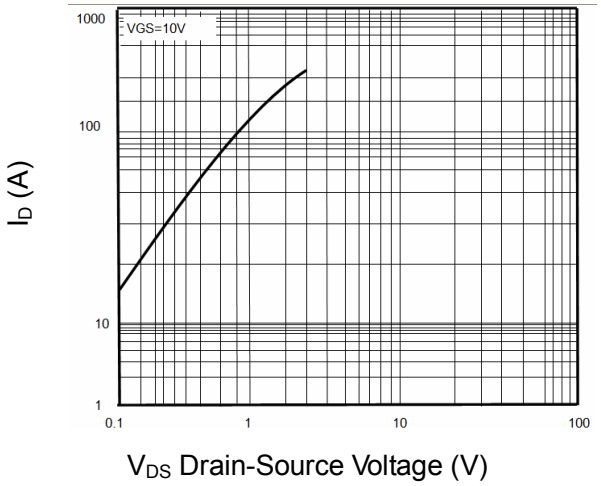


Figure2. Transfer Characteristics

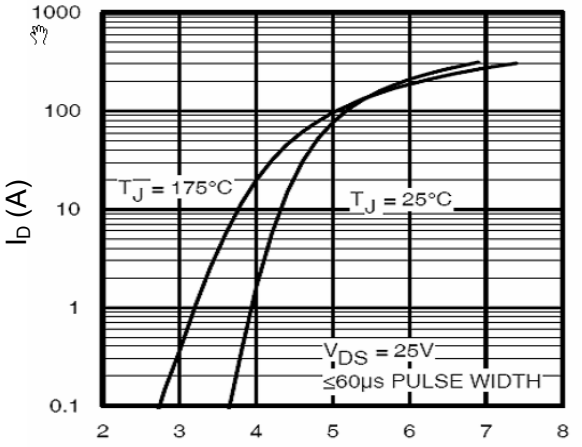


Figure3. BVDSS vs Junction Temperature

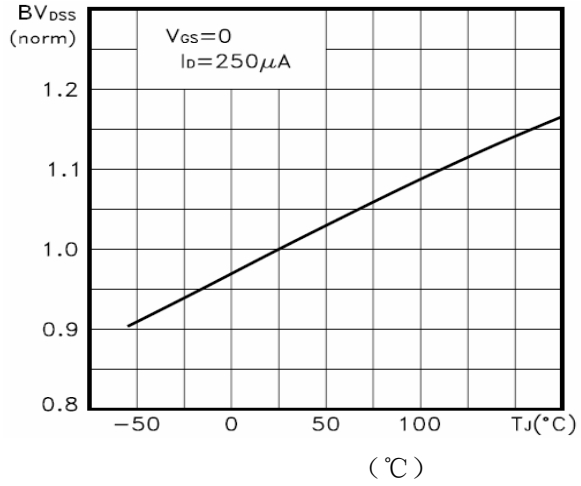


Figure4. ID vs Junction Temperature

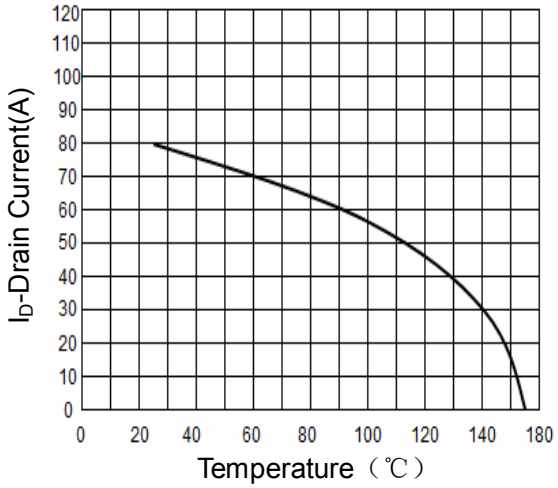
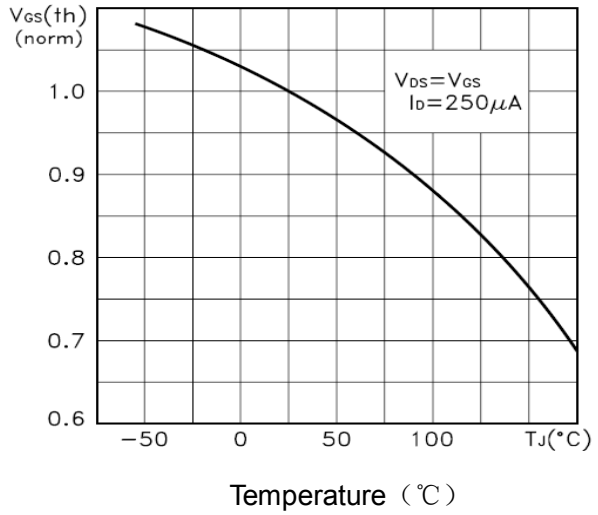


Figure7. BV_{DSS} vs Junction Temperature



Temperature（℃）

Figure8. $V_{GS(th)}$ vs Junction Temperature

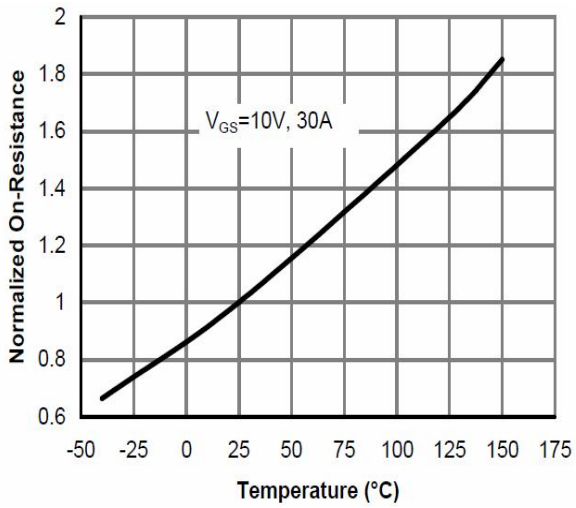
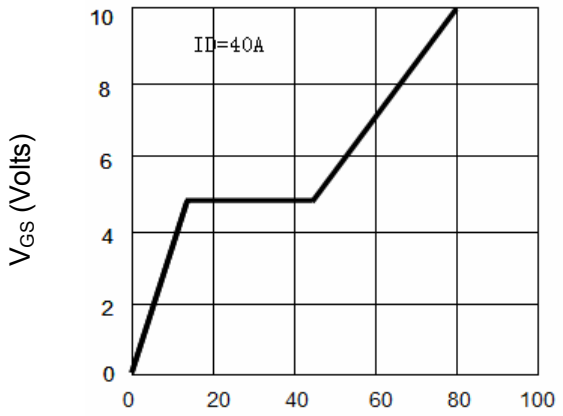
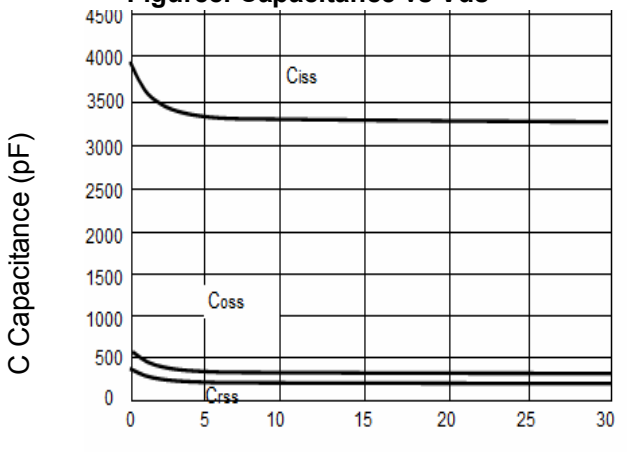


Figure7. Gate Charge



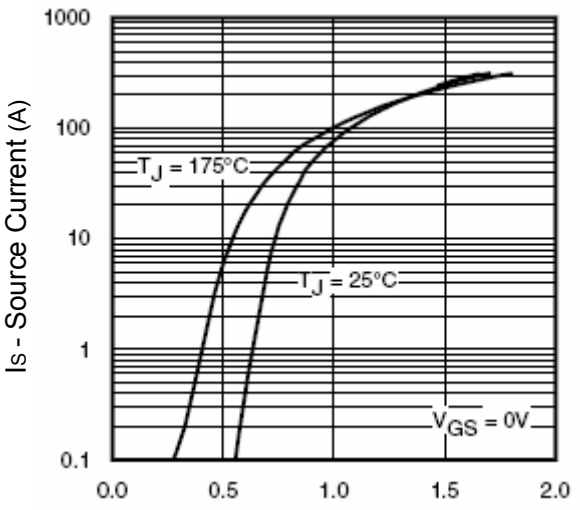
Qg Gate Charge (nC)

Figure8. Capacitance vs Vds



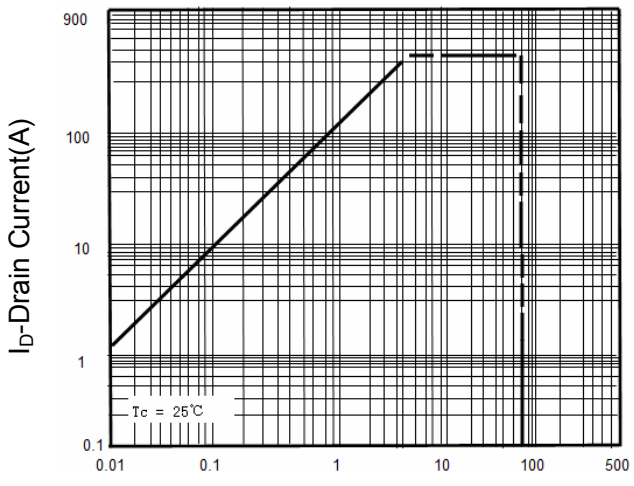
V_{DS} Drain-Source Voltage (V)

Figure9. Source- Drain Diode Forward



V_{SD} Source-Drain Voltage (V)

Figure10. Safe Operation Area



V_{DS} Drain-Source Voltage (V)

Figure11. Normalized Maximum Transient Thermal Impedance