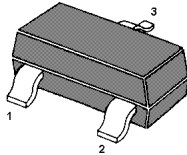
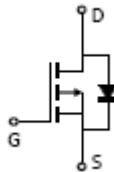
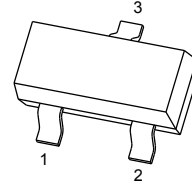


30V/-3.8A P Channel Advanced Power MOSFET
SOT-23


MARKING : DMB**

Equivalent Circuit

SOT-23

- 1. GATE
- 2. SOURCE
- 3. DRAIN



$V_{(BR)DSS}$	$R_{DS(ON)}$ Typ	I_D Max
-30V	60m Ω @ -10V	-3.8A
	70m Ω @ -4.5V	

Absolute Maximum Ratings

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Symbol	Parameter	Rating	Unit	
Common Ratings (T _A =25°C Unless Otherwise Noted)				
V _{GS}	Gate-Source Voltage	±12	V	
V _{(BR)DSS}	Drain-Source Breakdown Voltage	-30	V	
T _J	Maximum Junction Temperature	150	°C	
T _{STG}	Storage Temperature Range	-50 to 150	°C	
Mounted on Large Heat Sink				
I _{DM}	Pulse Drain Current Tested①	T _A =25°C	-16	A
I _D	Continuous Drain Current	T _A =25°C	3.8	A
		T _A =70°C	-3.2	

Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ T _J = 25°C (unless otherwise stated)						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V I _D =-250μA	-30	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current(T _A =25°C)	V _{DS} =-30V, V _{GS} =0V	--	--	-1	μA
	Zero Gate Voltage Drain Current(T _A =125°C)	V _{DS} =-24V, V _{GS} =0V	--	--	-100	uA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±12V, V _{DS} =0V	--	--	±100	nA
V _{GS(TH)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =-250μA	-0.5	-0.8	-1.2	V
R _{DS(ON)}	Drain-Source On-State Resistance②	V _{GS} =-10V, I _D =-3.8A	--	48	60	mΩ
R _{DS(ON)}	Drain-Source On-State Resistance②	V _{GS} =-4.5V, I _D =-3A	--	59	70	mΩ
R _{DS(ON)}	Drain-Source On-State Resistance②	V _{GS} =-3.3V, I _D =-3A	--	75	90	mΩ
Dynamic Electrical Characteristics @ T _J = 25°C (unless otherwise stated)						
C _{iss}	Input Capacitance	V _{DS} =-15V, V _{GS} =0V, f=1MHz	--	655	--	pF
C _{oss}	Output Capacitance		--	65	--	pF
C _{rss}	Reverse Transfer Capacitance		--	53	--	pF
Q _g	Total Gate Charge	V _{DS} =-15V I _D =-3.8A, V _{GS} =-4.5V	--	7.2	--	nC
Q _{gs}	Gate Source Charge		--	1.5	--	nC
Q _{gd}	Gate Drain Charge		--	2.6	--	nC
Switching Characteristics @ T _J = 25°C (unless otherwise stated)						
t _{d(on)}	Turn on Delay Time	V _{DD} =-15V, I _D =-2A, R _G =3.3Ω, V _{GS} =-10V	--	7	--	ns
t _r	Turn on Rise Time		--	3.8	--	ns
t _{d(off)}	Turn Off Delay Time		-	35	--	ns
t _f	Turn Off Fall Time		--	10.5	--	ns
Source Drain Diode Characteristics						
I _{SD}	Source drain current(Body Diode)	T _A =25°C	--	--	-2	A
V _{SD}	Forward on voltage②	T _j =25°C, I _{SD} =-4A, V _{GS} =0V	--	-0.88	-1.2	V

Typical Characteristics

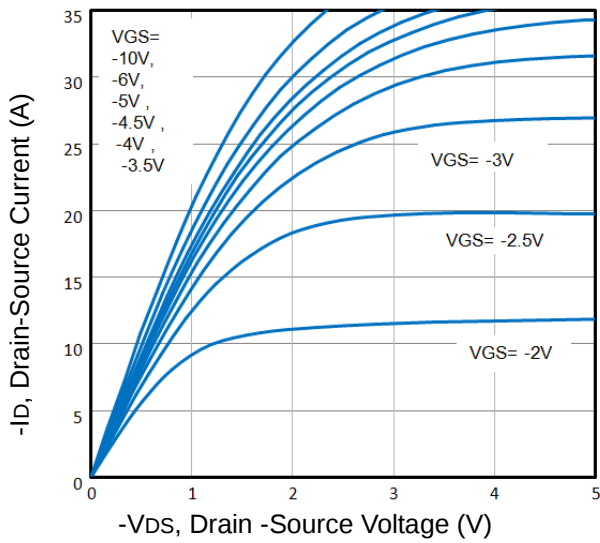


Fig1. Typical Output Characteristics

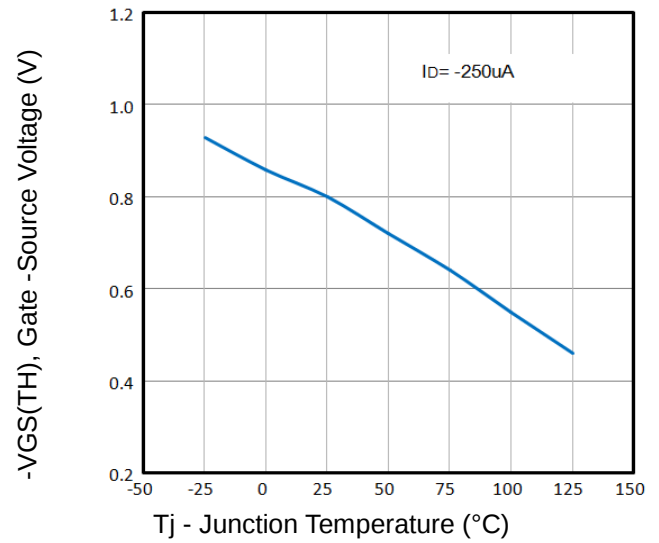


Fig2. Normalized Threshold Voltage Vs. Temperature

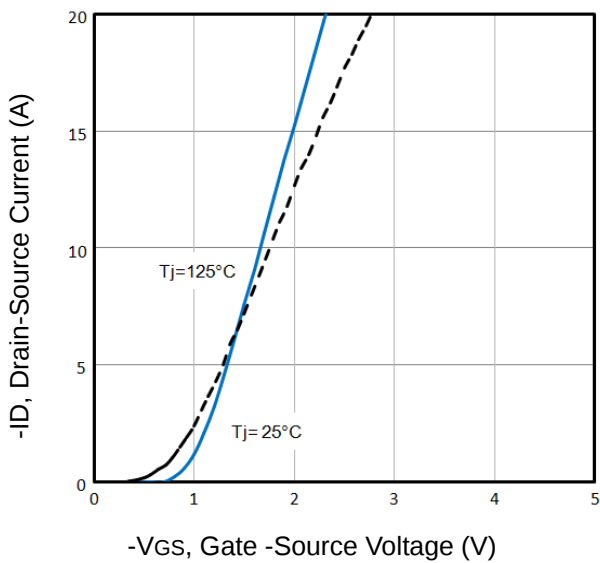


Fig3. Typical Transfer Characteristics

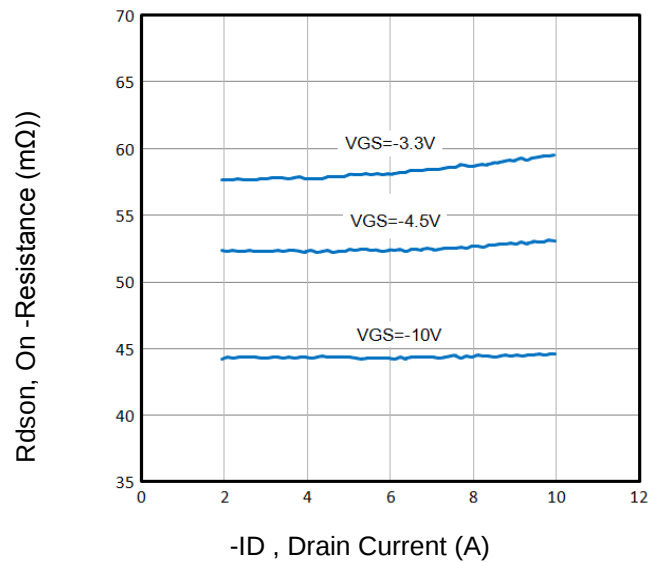


Fig4. On-Resistance vs. Drain Current and Gate

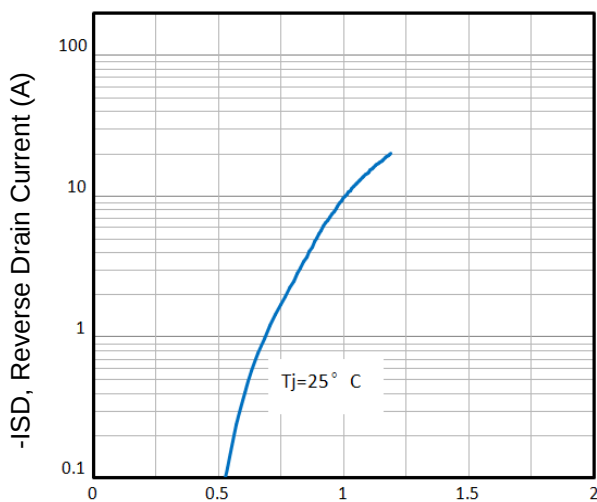


Fig5. Typical Source-Drain Diode Forward Voltage

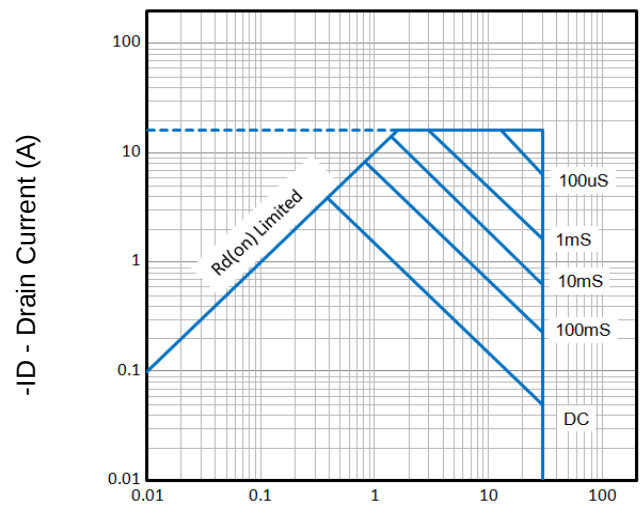
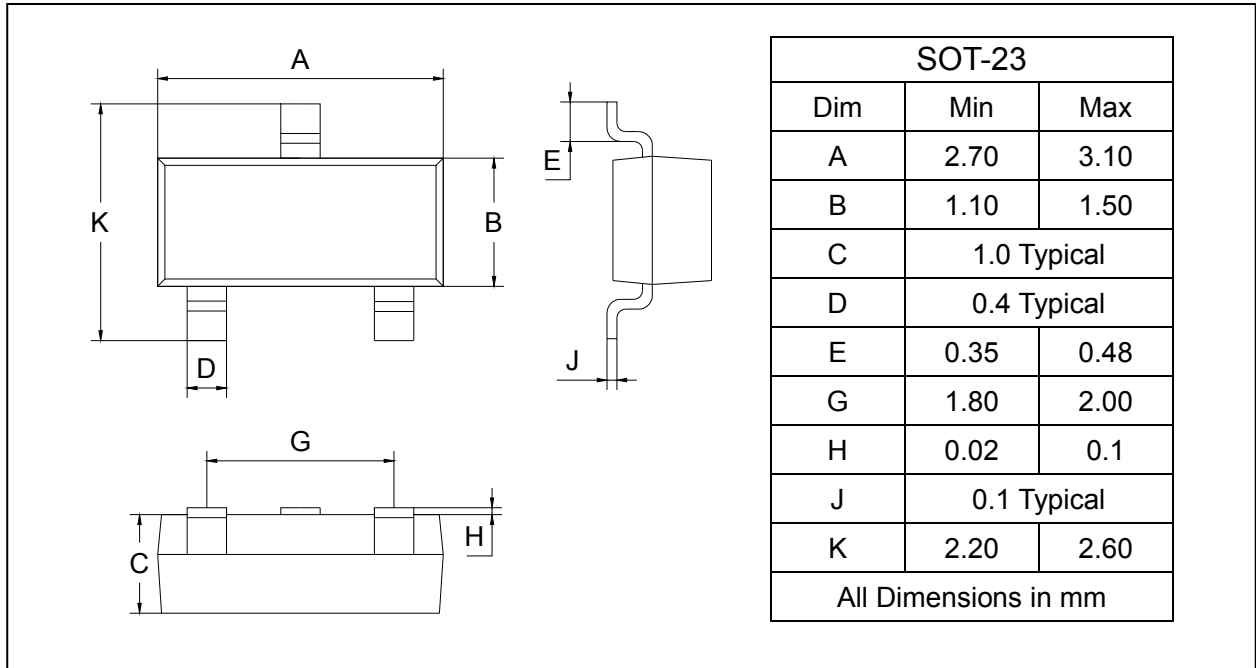


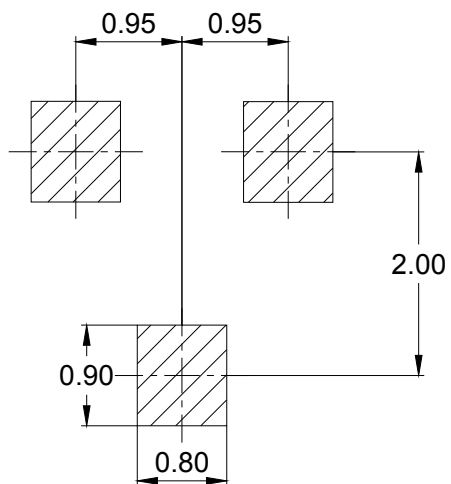
Fig6. Maximum Safe Operating Area

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



Unit : mm