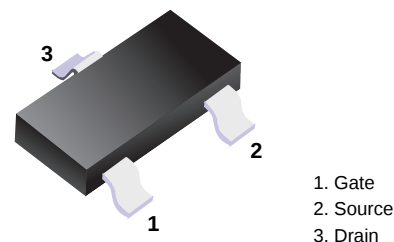
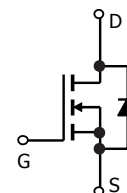


■ N-Channel Enhancement MOSFET



■ Simplified outline(SOT-23)



■ Marking Code:2300

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{DS}	Drain-Source voltage	20	V
V _{GS}	Gate-Source voltage	± 10	V
I _D	Drain current	4	A
P _D	Power Dissipation	1.25	W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C

ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	V(BR)DSS	VGS=0V, ID=250uA	20			V
Gate-Threshold Voltage	Vth(GS)	VDS= VGS, ID=250 uA	0.5	0.70	1.0	V
Gate-body Leakage	IGSS	VDS=0V, VGS=± 10V			± 100	nA
Zero Gate Voltage Drain Current	IDSS	VDS=20V, VGS=0V			1	uA
Drain-Source On-Resistance	rDS(ON)	VGS=2.5V, ID=4.0A		27	35	mΩ
		VGS=4.5V, ID=5.0A		20	27	mΩ
Forward Trans conductance	gfs	VDS=5V, ID=5.8A		25		S
Dynamic Characteristics						
Input Capacitance	Ciss	VDS=10V, VGS=0V, f=1MHz		515		pF
Output Capacitance	Coss			90		
Reverse Transfer Capacitance	Crss			72		
Switching Capacitance						
Turn-on Delay Time	td(on)	VDD=10V, RL=1.7Ω, VGS=10V RGEN=3.0Ω		3		nS
Turn-on Rise Time	tr			7.5		nS
Turn-off Delay Time	td(off)			20		nS
Turn-off Fall Time	tr			6		nS
Total Gate Charge	Qg	VDS=10V, ID=5.8A, VGS=10V,		12		nC
Gate-Source Charge	Qgs			1		nC
Gate-Drain Charge	Qgd			2		nC
Drain-Source Diode Characteristics						
Diode Forward Voltage	VSD	VGS=0V, IS=1A		0.75	1.2	V
Diode Forward Current	IS				2.0	A

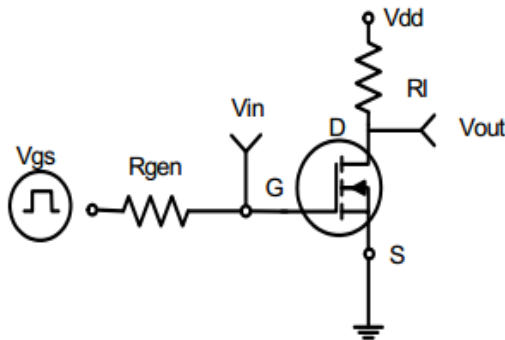


Figure 1: Switching Test Circuit

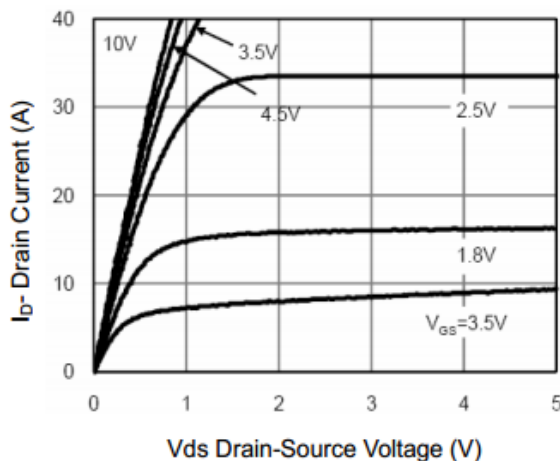


Figure 3 Output Characteristics

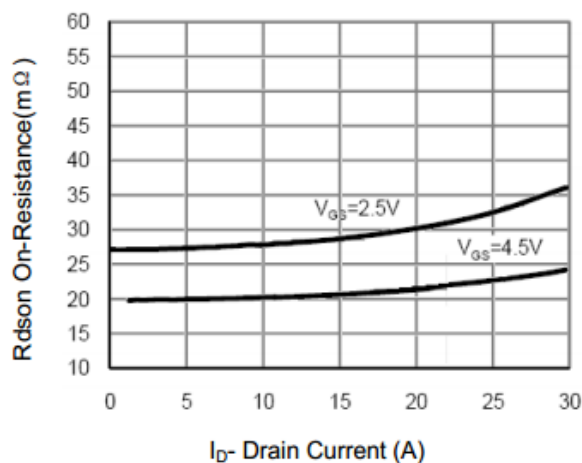


Figure 5 Drain-Source On-Resistance

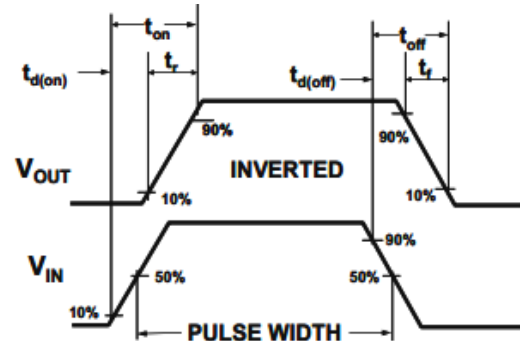


Figure 2: Switching Waveforms

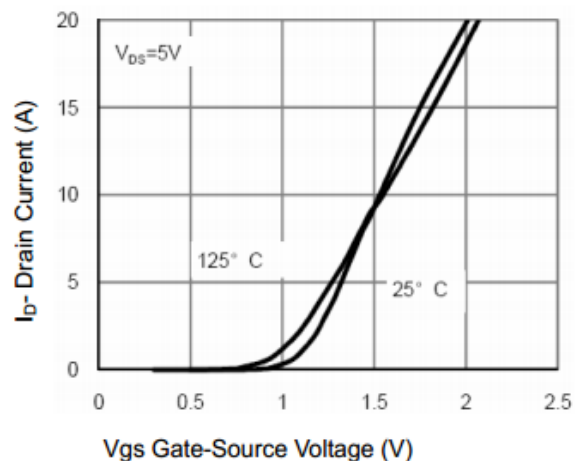


Figure 4 Transfer Characteristics

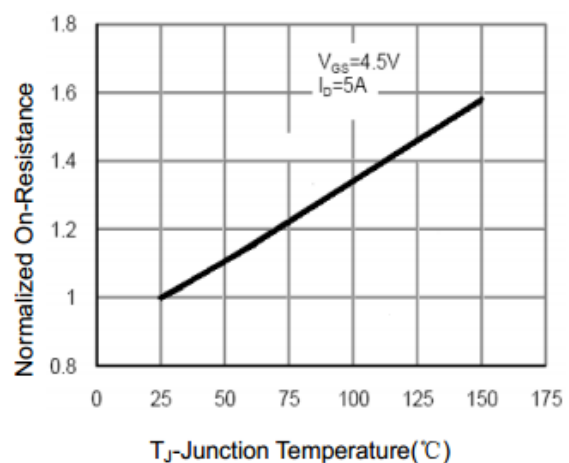


Figure 6 Drain-Source On-Resistance

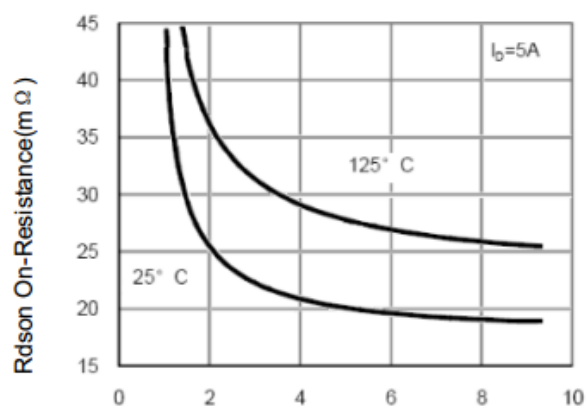


Figure 7 Rdson vs Vgs

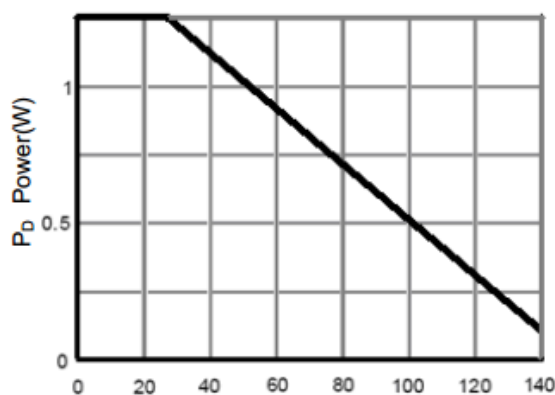


Figure 8 Power Dissipation

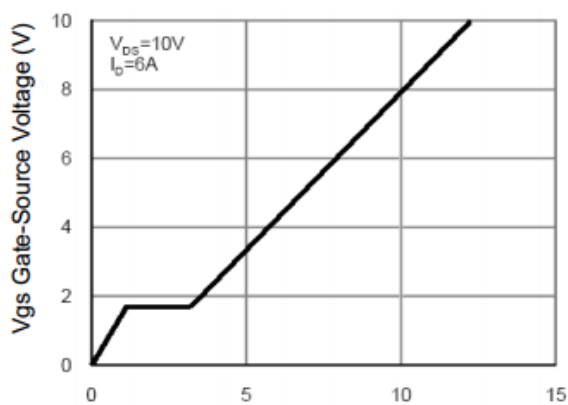


Figure 9 Gate Charge

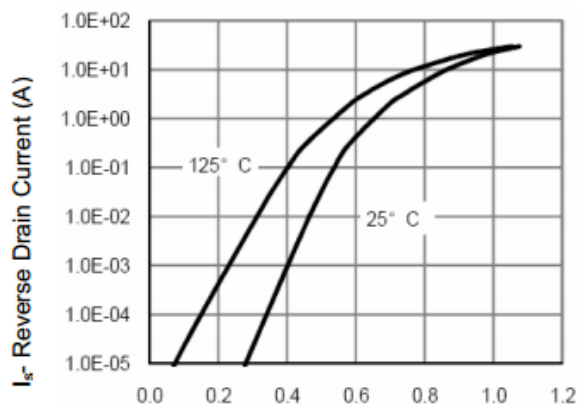


Figure 10 Source- Drain Diode Forward

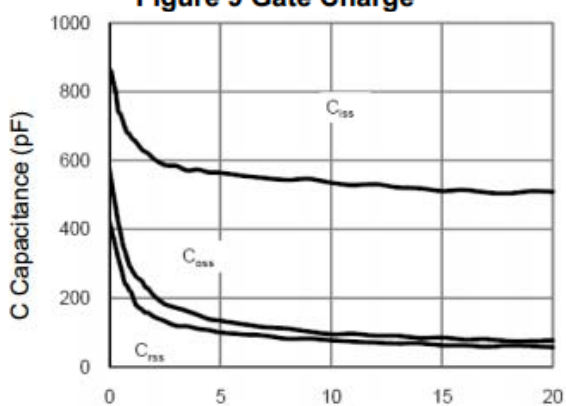


Figure 11 Capacitance vs Vds

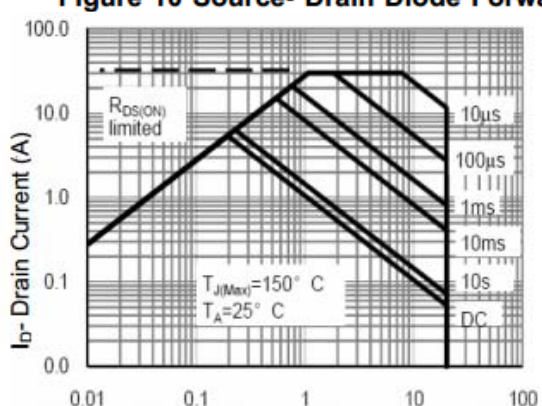
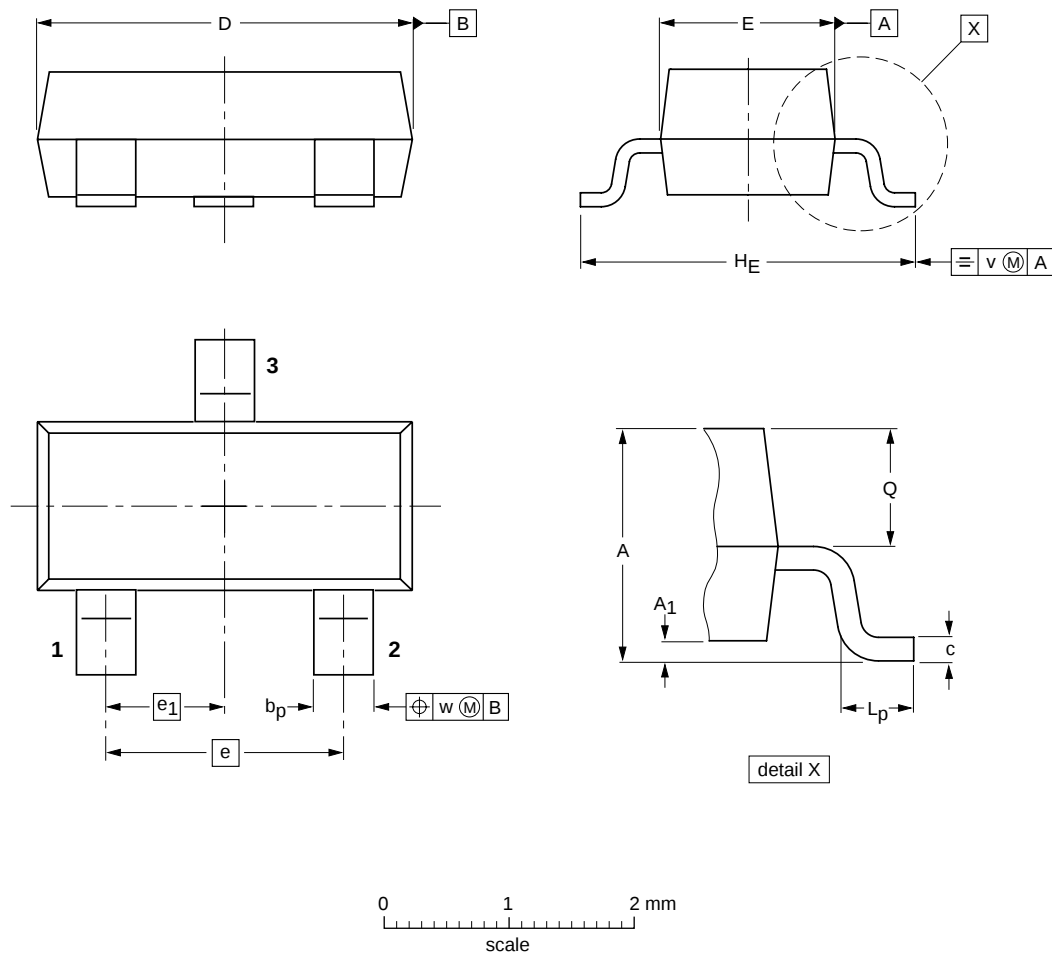


Figure 12 Safe Operation Area

Package Outline

SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel, 7" reel	3000	EIA-481-1