



HY2307

P-CHANNEL MOSFET

-2.7A, -30V P-CHANNEL ENHANCEMENT MODE POWER MOSFET

DESCRIPTION

The HY2307 meet the ROHS and Green Product requirement with full function reliability approved.

FEATURE

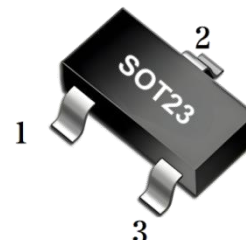
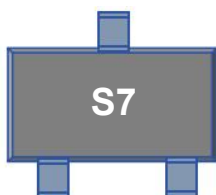
*TrenchFET Power MOSFET

APPLICATION

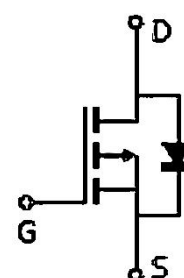
* Load Switch for Portable Devices

MARKING

Type Code: Marking: S7



Equivalent Circuit



ABSOLUTE MAXIMUM RATINGS($T_A=25^{\circ}\text{C}$, unless otherwise specified.)

SYMBOL	PARAMETER	VALUE	UNIT
V _{DS}	Drain-Source Voltage	-30	V
V _{GS}	Gate Source Voltage	±20	V
I _D	Continuous Drain Current	-2.7	A
I _S	Continuous Source-Drain Current	-0.91	A
P _D	Power Dissipation(Note 1)	1.1	W
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	-55~150	°C
R _{θJA}	Thermal Resistance From Junction To Ambient($t \leq 5s$)(Note 1)	114	°C/W

Notes: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.



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■ ELECTRICAL CHARACTERISTICS (TA=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =-250μA	-30			V
Gate-Source Threshold Voltage	V _{GS(TH)}	V _{GS} =V _{DS} , I _D =-250μA	-1		-3	V
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
		V _{DS} =-30V, V _{GS} =0V, T _J =55°C			-10	
Drain-source on-state resistance(Note 2)	R _{DS(ON)}	V _{GS} =-4.5V, I _D =-2.5A		110	138	mΩ
		V _{GS} =-10V, I _D =-3.5A		73	88	
Forward Transconductance(Note 2)	g _{fs}	V _{DS} =-10V, I _D =-3.5A		7		S
DYNAMIC (Note 3)						
Input Capacitance	C _{ISS}	V _{GS} =0V, V _{DS} =-15V, f=1MHz		340		pF
Output Capacitance	C _{OSS}			67		
Reverse Transfer Capacitance	C _{RSS}			51		
Total gate charge	Q _g	V _{DS} =-15V, V _{GS} =-4.5V, I _D =-2.5A		4.1	6.2	nC
Gate-source charge	Q _{gs}			1.3		
Gate-drain charge	Q _{gd}			1.8		
Gate Resistance	R _g	f =1MHz		10		Ω
Turn-On Delay Time	t _{d(on)}	V _{DD} =-15V, R _L =15Ω, I _D =-1A, V _{GEN} =-4.5V, R _g =1Ω		40	60	ns
Rise Time	t _r			40	60	
Turn-Off Delay Time	t _{d(off)}			20	40	
Fall Time	t _f			17	30	
DRAIN-SOURCE BODY DIODE CHARACTERISTICS						
Body Diode Voltage	V _{SD}	I _S =-0.75A, V _{GS} =0V		-0.8	-1.2	V

Notes:

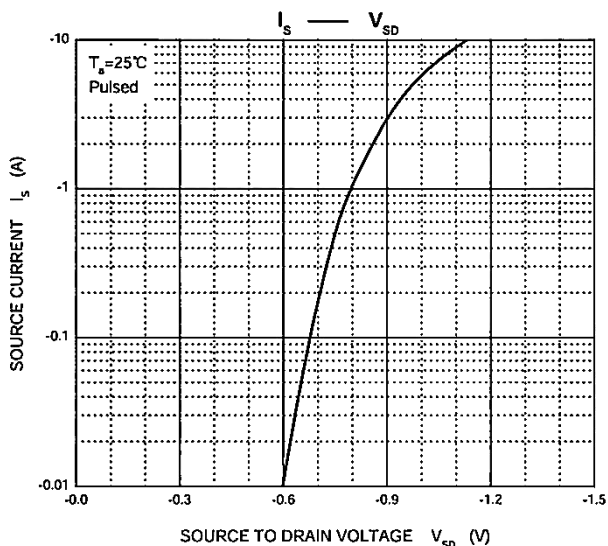
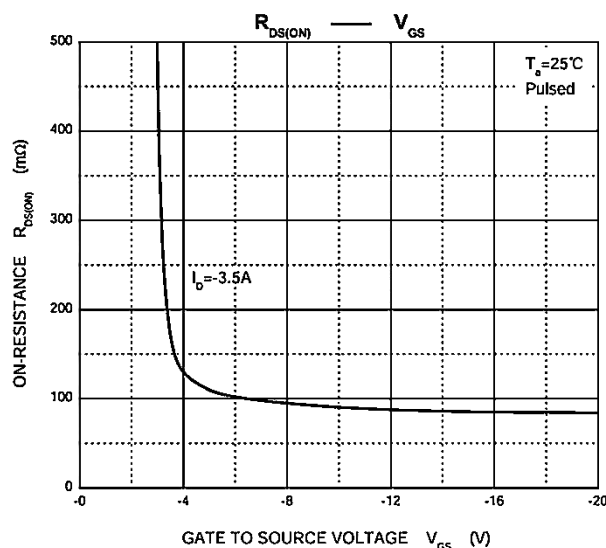
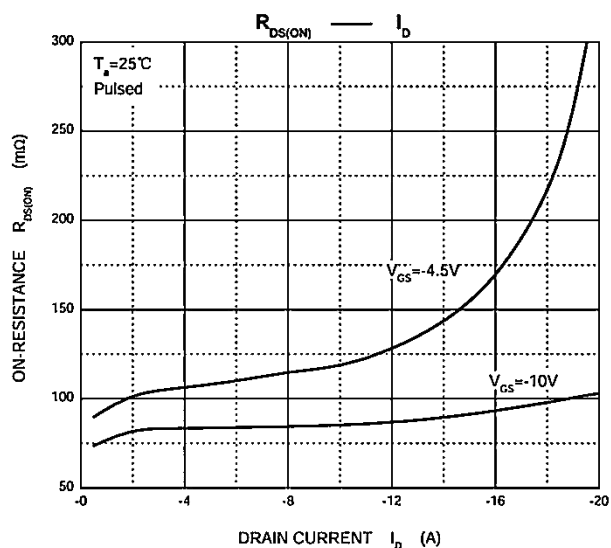
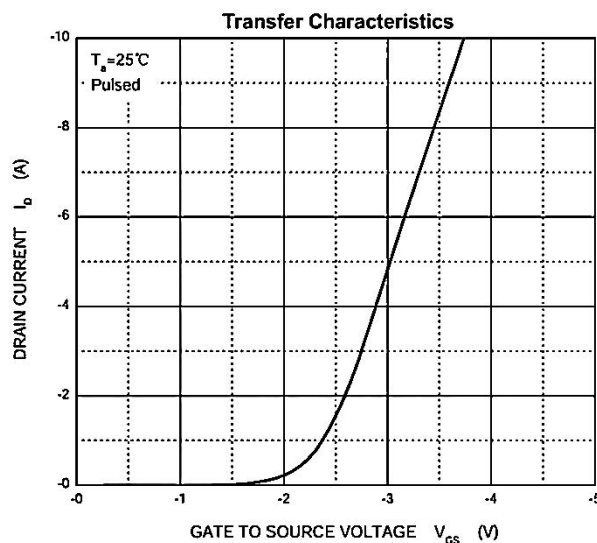
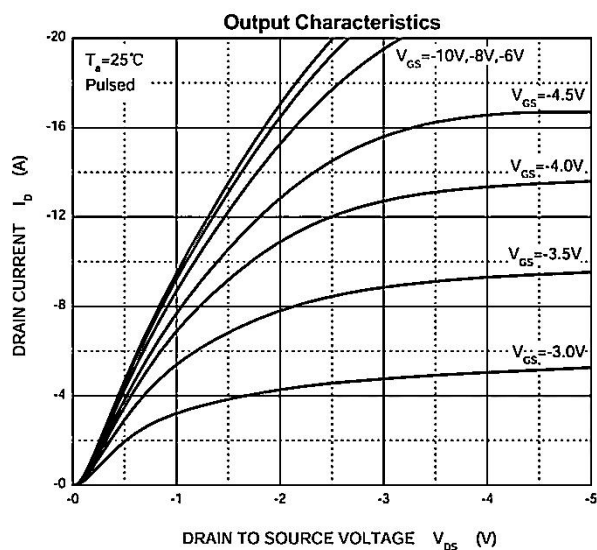
1. Surface mounted on 1" × 1" FR4 board.
2. Pulse Test : Pulse Width < 300 μs , Duty Cycle $\leq 2\%$.
3. Guaranteed by design, not subject to production testing.



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TYPICAL CHARACTERISTICS

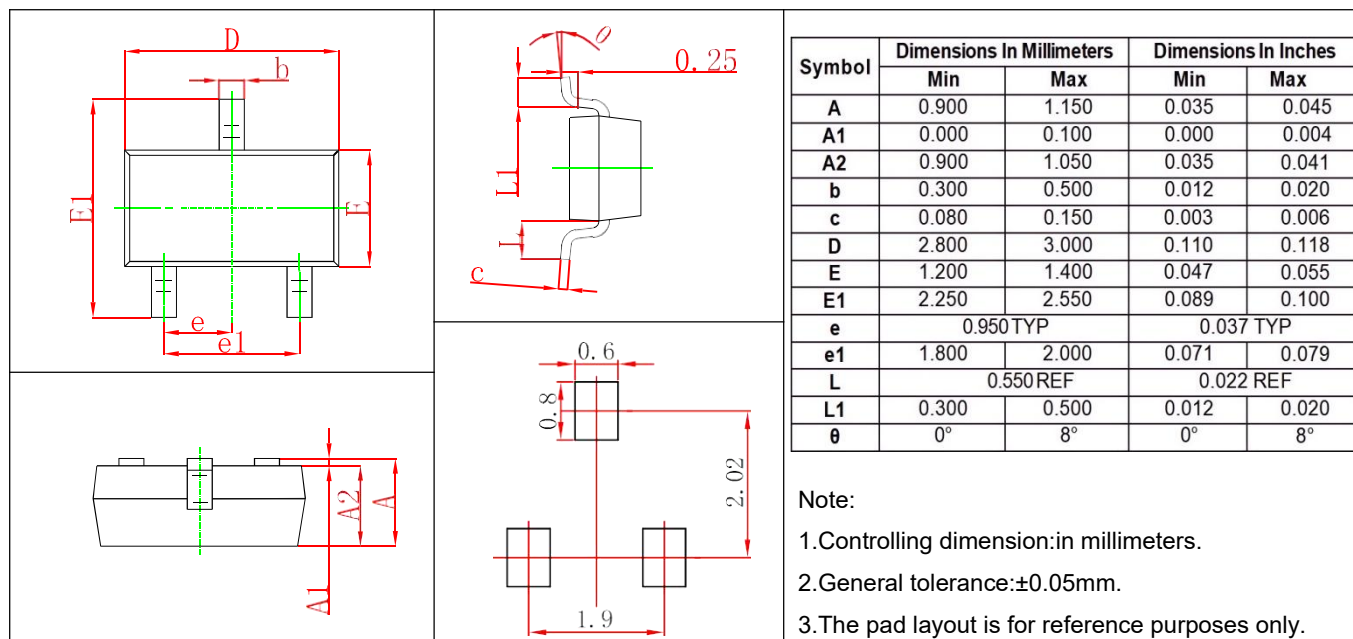




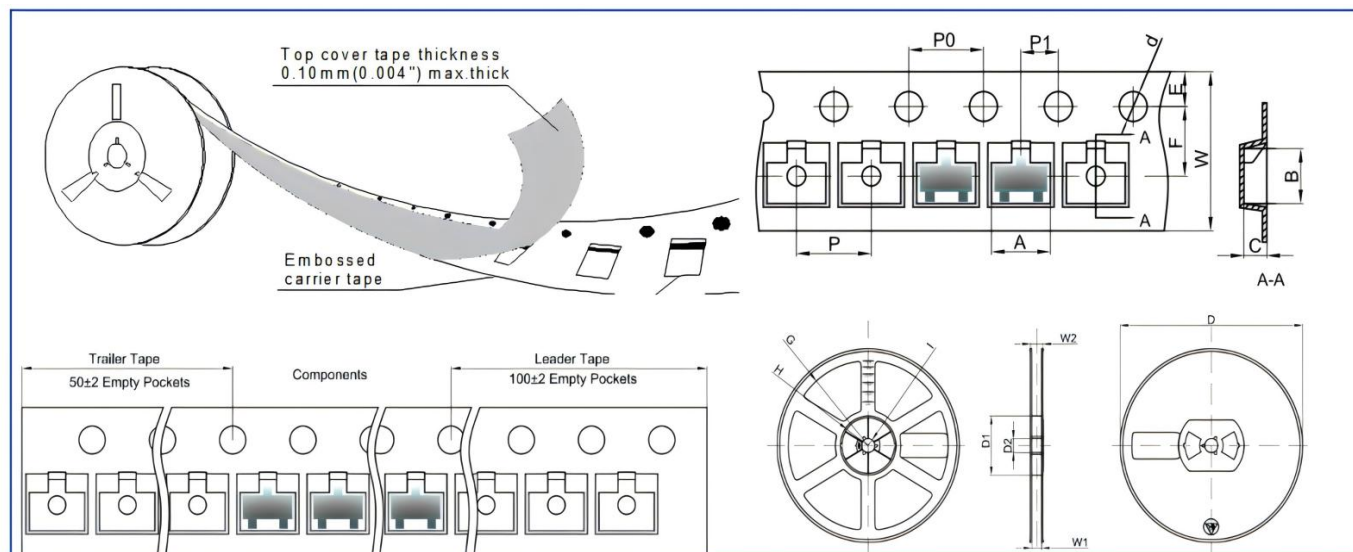
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SOT23 PACKAGE OUTLINE DIMENSIONS



REEL PACKING



Dimensions are in millimeter

PKG TYPE	A	B	C	d	E	F	Po	P	P1	W
SOT-23	3.15	2.77	1.22	Φ1.50	1.75	3.50	4.00	4.00	2.00	8.00
Reel Option	D	D1	D2	G	H	I	W1	W2	Q.TY PER REEL	
7" Dia	Φ178.0	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30	3000PCS	
13" Dia	Φ330.0	/	13.00	/	/	R6.50	9.50	12.30	10000PCS	