



HY3401A

P-CHANNEL MOSFET

-4.2A, -30V P-CHANNEL ENHANCEMENT MODE POWER MOSFET

■ DESCRIPTION

The HY3401A meet the ROHS and Green Product requirement with full function reliability approved.

■ FEATURE

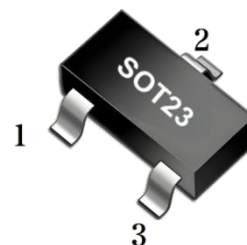
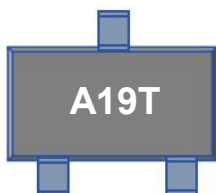
- *High dense cell design for extremely low $R_{DS(ON)}$
- *Exceptional on-resistance and maximum DC current capability

■ APPLICATION

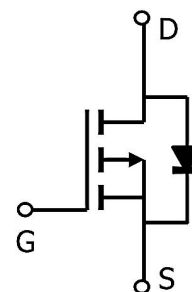
- * Load Switch for Portable Devices
- * DC/DC Converter

■ MARKING

Type Code: Marking: A19T



Equivalent Circuit



■ ABSOLUTE MAXIMUM RATINGS(TA=25°C, unless otherwise specified.)

SYMBOL	PARAMETER	VALUE	UNIT
V _{DS}	Drain-Source Voltage	-30	V
V _{GS}	Gate Source Voltage	±12	V
I _D	Continuous Drain Current	-4.2	A
P _D	Power Dissipation	0.4	W
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	-55~150	°C
R _{θJA}	Thermal Resistance From Junction To Ambient (t<5s)	313	°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
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =-250μA	-30			V
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±12V, V _{DS} =0V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-24V, V _{GS} =0V			-1	μA
ON CHARACTERISTICS						
Drain-source on-state resistance(Note 1)	R _{DS(ON)}	V _{GS} =-10V, I _D =-4.2A		41	60	mΩ
		V _{GS} =-4.5V,I _D =-4A		47	70	
		V _{GS} =-2.5V,I _D =-1A		61	85	
Gate Threshold Voltage	V _{GS(TH)}	V _{GS} =V _{DS} ,I _D =-250μA	-0.7		-1.3	V
Forward tranconductance(Note 1)	g _{FS}	V _{DS} =-5V, I _D =-5A	7			S
DYNAMIC CHARACTERISTICS(Note 2)						
Input Capacitance	C _{ISS}	V _{GS} =0V,V _{DS} =-15V,f=1MHz		1050		pF
Output Capacitance	C _{OSS}			127		
Reverse Transfer Capacitance	C _{RSS}			85		
SWICHING CHARACTERISTICS(Note 2)						
Turn-On Delay Time	td(on)	V _{DS} =-15V, R _L =3.6Ω, V _{GS} =-10V,R _{GEN} =6Ω			6.5	ns
Turn-On Rise Time	tr				3.5	
Turn-Off Delay Time	td(off)				40	
Turn-Off Fall Time	tf				13	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Diode forward voltage (note 1)	VSD	IS=-1A,VGS=0V			-1	V

Notes: 1. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
2. These parameters have no way to verify.

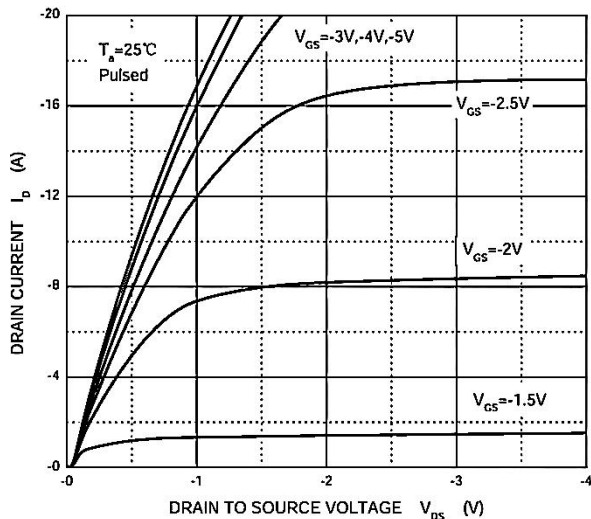


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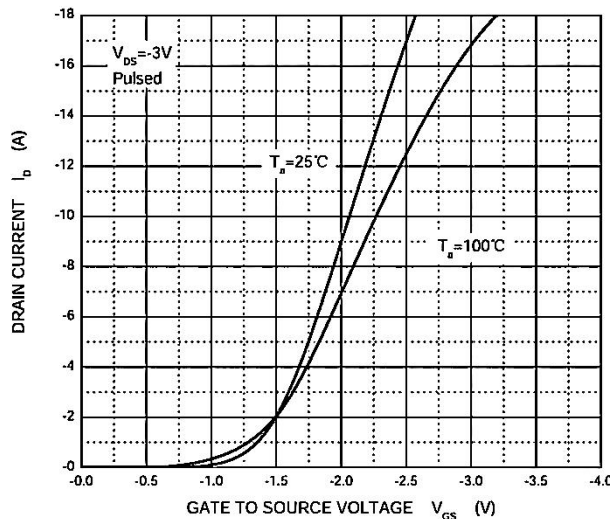
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TYPICAL CHARACTERISTICS

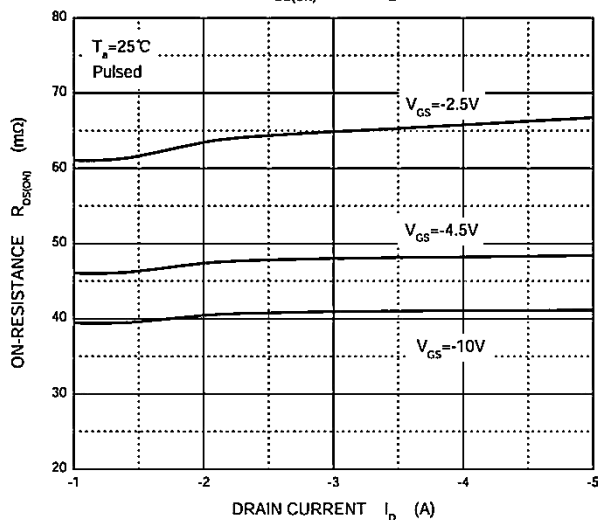
Output Characteristics



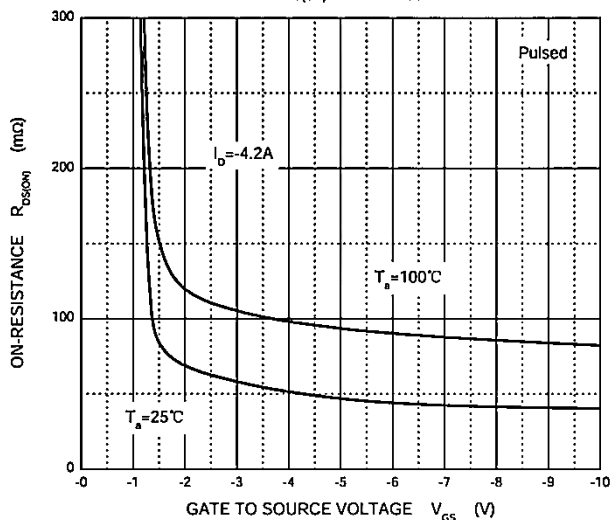
Transfer Characteristics



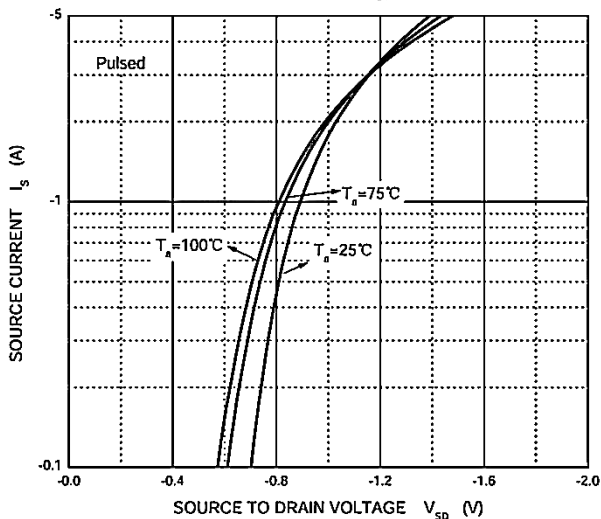
$R_{DS(ON)}$ — I_D



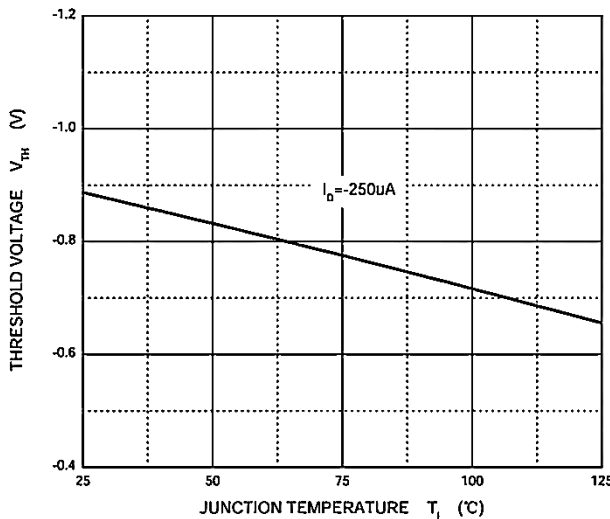
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



Threshold Voltage

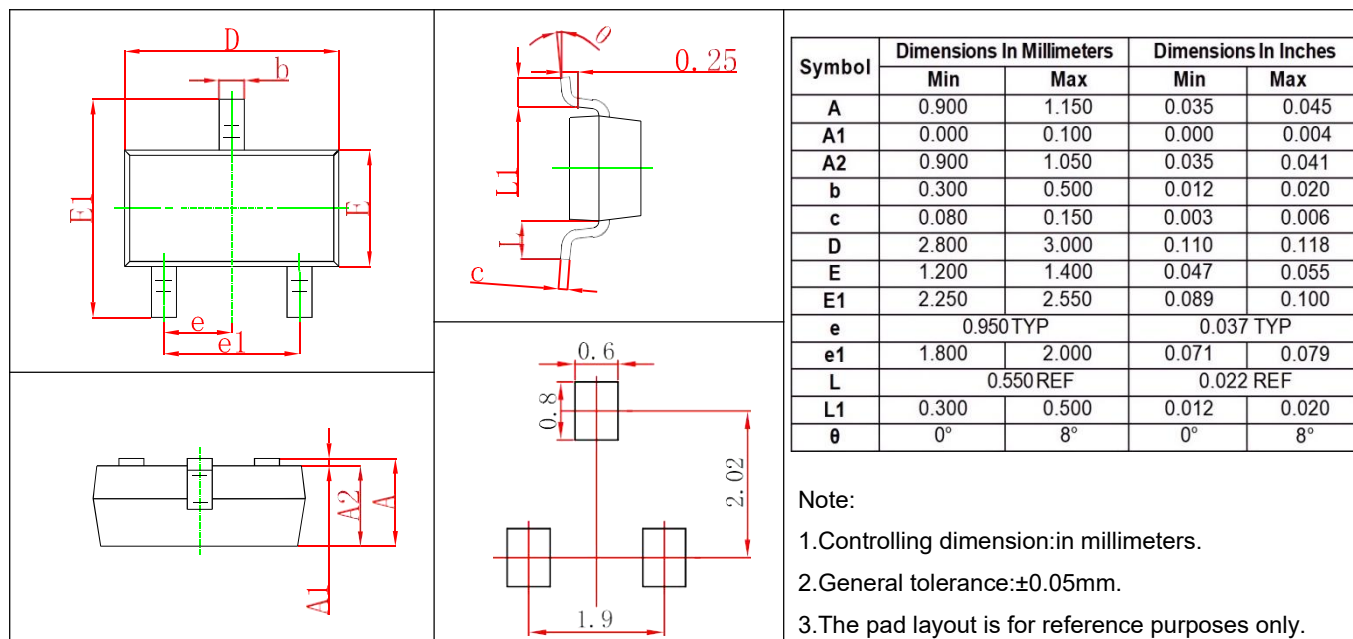




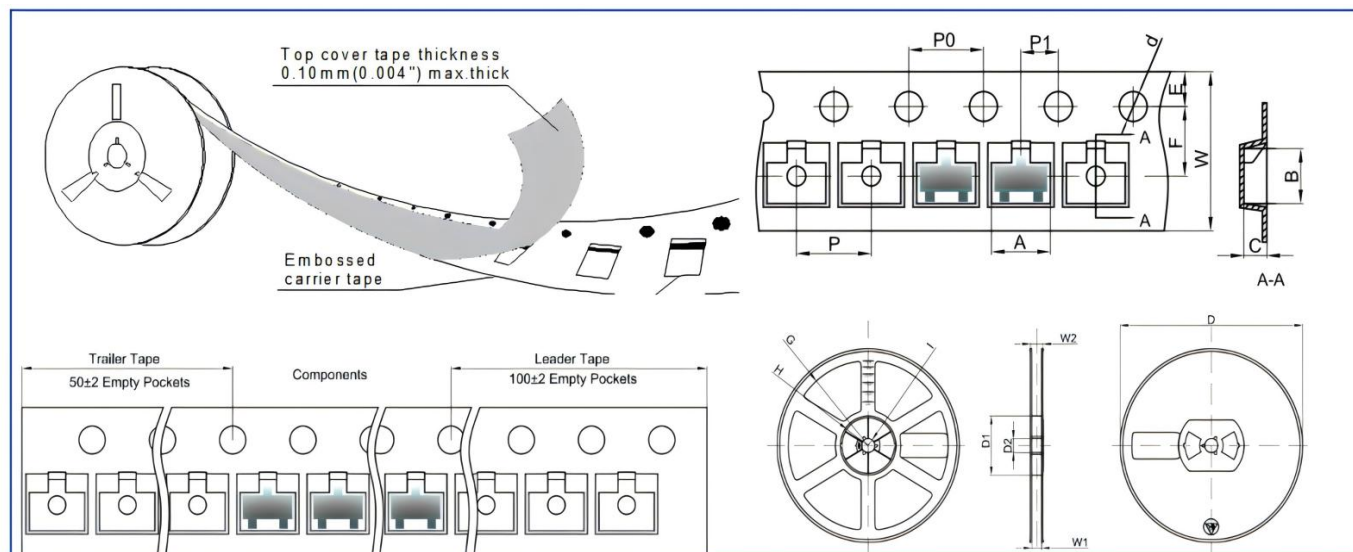
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SOT23 PACKAGE OUTLINE DIMENSIONS



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	