



HY2324

N-CHANNEL MOSFET

2A, 100V N-CHANNEL ENHANCEMENT MODE POWER MOSFET

DESCRIPTION

The HY2324 meet the ROHS and Green Product requirement with full function reliability approved.

FEATURE

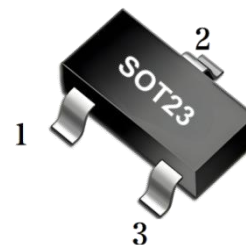
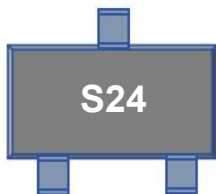
- *TrenchFET Power MOSFET
- *Low $R_{DS(ON)}$
- *Surface Mount Package

APPLICATION

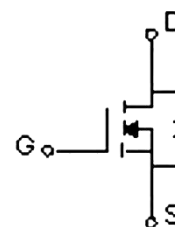
- * DC/DC Converters
- * Load Switch
- * LED Backlighting in LCD TVs

MARKING

Type Code: Marking: S24



Equivalent Circuit



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

SYMBOL	PARAMETER	VALUE	UNIT
VDS	Drain-Source Voltage	100	V
VGS	Gate Source Voltage	±20	V
ID	Continuous Drain Current	2	A
IDM	Pulsed Drain Current (Note 1)	8	A
PD	Power Dissipation	1.0	W
TJ	Junction Temperature	150	°C
TSTG	Storage Temperature	-55~150	°C
RθJA	Thermal Resistance From Junction To Ambient (Note 2)	125	°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 CHARACTERISTICS						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	100			V
Gate Threshold Voltage(Note 3)	$V_{GS(TH)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	1.2		2.8	V
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V$			1	μA
Drain-source on-state resistance(Note 3)	$R_{DS(ON)}$	$V_{GS}=10V, I_D=1.5A$		195	234	m Ω
		$V_{GS}=6V, I_D=1A$		200	267	
		$V_{GS}=4.5V, I_D=0.5A$		208	278	
Forward Transconductance	g_{fs}	$V_{DS}=20V, I_D=1.5A$		2		S
Diode forward voltage(Note 3)	V_{SD}	$I_S=1.3A, V_{GS}=0V$			1.2	V
DYNAMIC CHARACTERISTICS(Note 4)						
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=50V, f=1MHz$		190		pF
Output Capacitance	C_{oss}			22		
Reverse Transfer Capacitance	C_{rss}			13		
Gate Resistance	R_g	$F=1MHz$	0.3		2.8	Ω
SWITCHING CHARACTERISTICS(Note 4)						
Total gate charge	Q_g	$V_{DS}=50V, V_{GS}=4.5V, I_D=1.6A$			5.8	nC
Gate-source charge	Q_{gs}			0.75		
Gate-drain charge	Q_{gd}			1.4		
Turn-On Delay Time	$t_{d(on)}$	$V_{GEN}=4.5V, I_D=1.3A,$ $V_{DD}=50V, R_G=1\Omega, R_L=39\Omega$			45	ns
Rise Time	t_r				39	
Turn-Off Delay Time	$t_{d(off)}$				26	
Fall Time	t_f				20	

Notes:

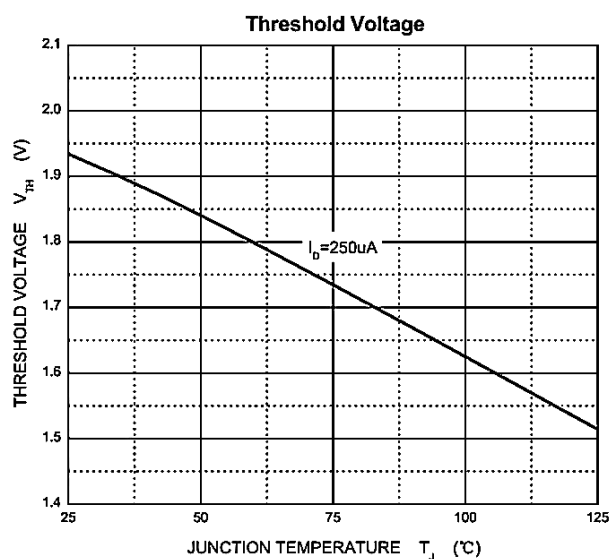
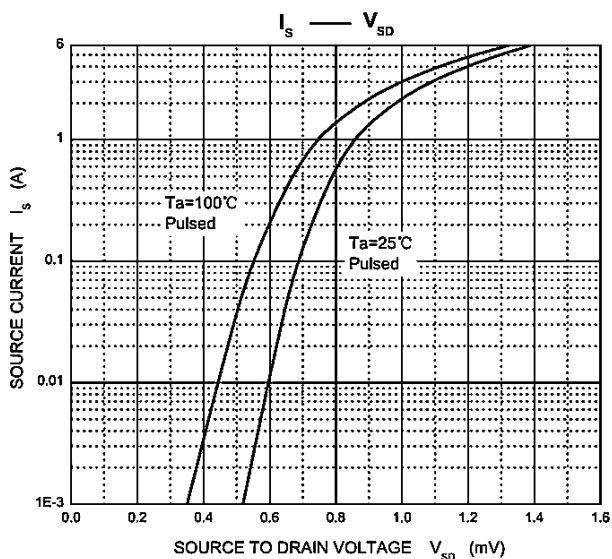
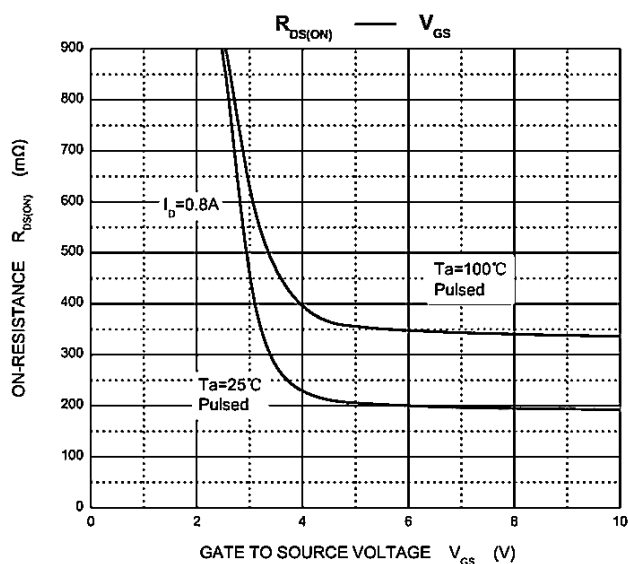
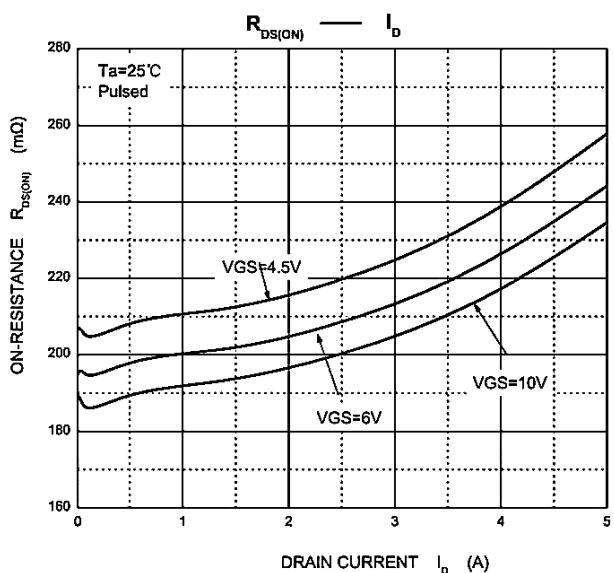
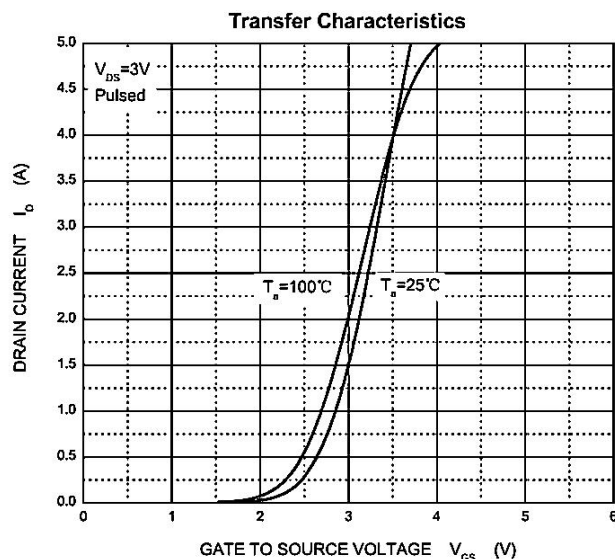
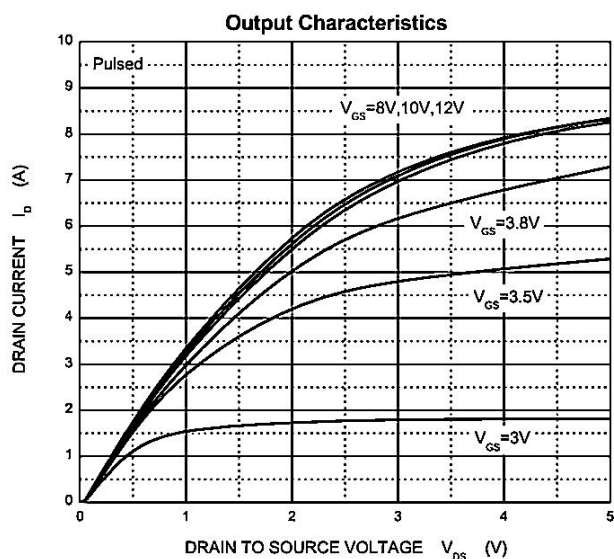
1. $P_w \leq 10\mu s$, Duty cycle $\leq 1\%$.
2. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in2 FR-4 board with 2oz. Copper, in a still air environment with $T_a=25^\circ C$.
3. Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production.



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TYPICAL CHARACTERISTICS

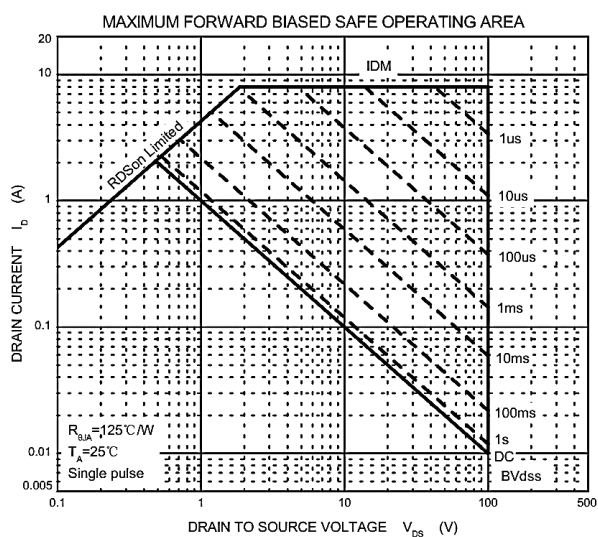
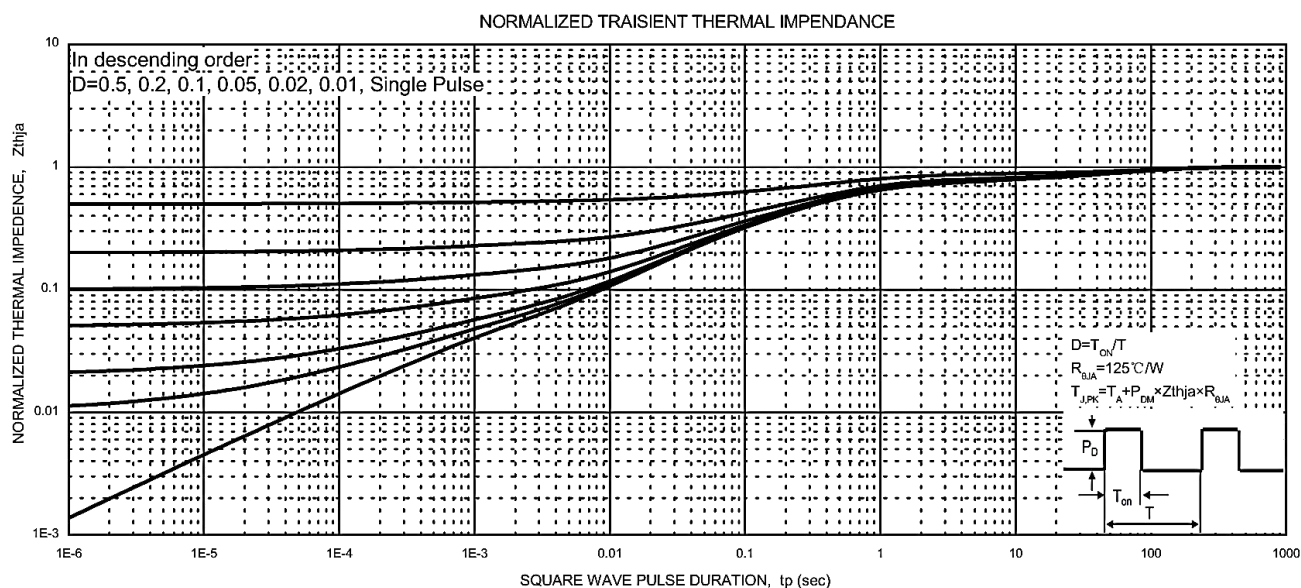




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■ TYPICAL CHARACTERISTICS(Con.t)

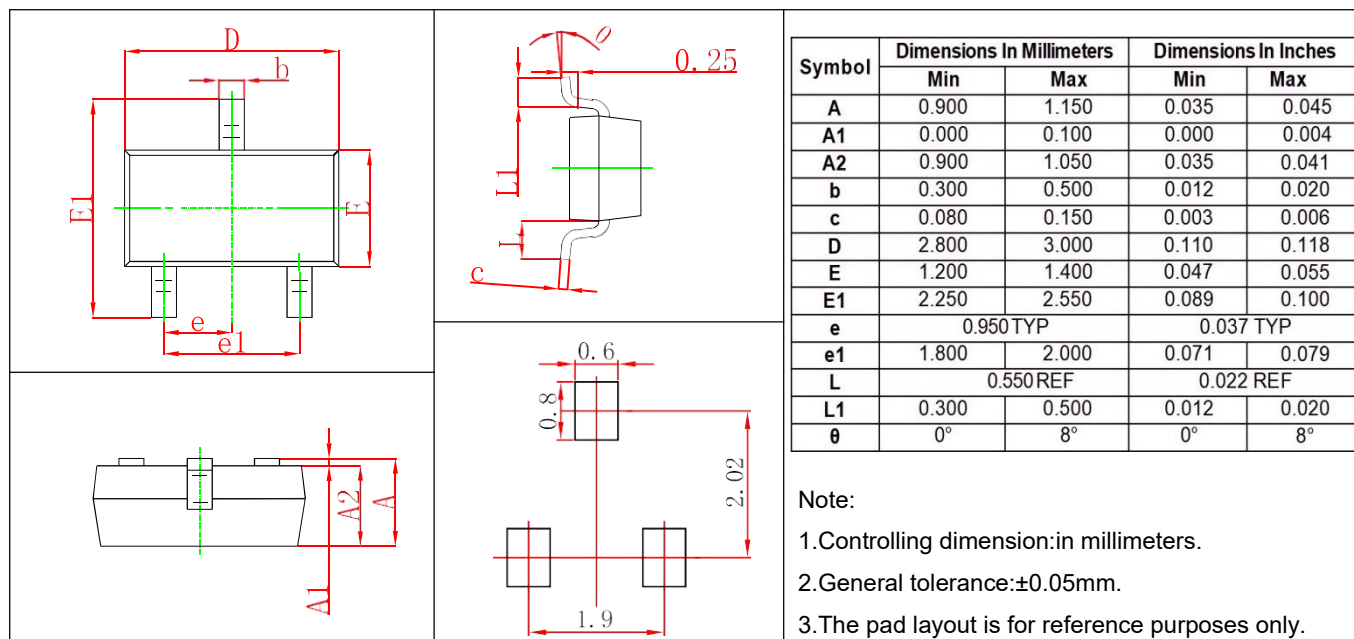




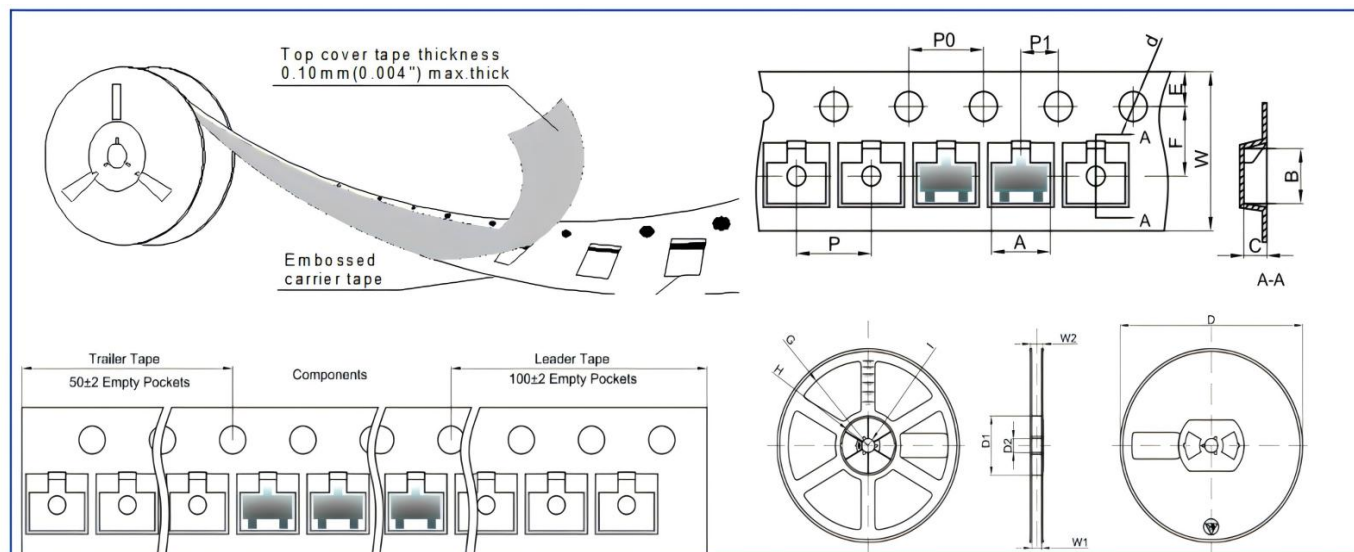
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SOT23 PACKAGE OUTLINE DIMENSIONS



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	