



2N10

N-CHANNEL MOSFET

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

DESCRIPTION

The 2N10 meet the ROHS and Green Product requirement with full function reliability approved.

FEATURE

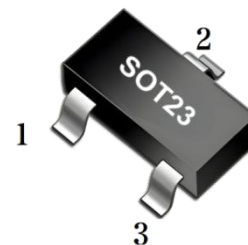
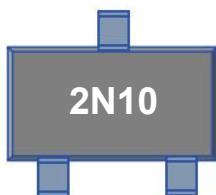
- * TrenchFET Power MOSFET
- * LowRDS(ON)
- * Surface Mount Package

APPLICATION

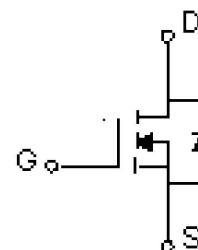
- * LEDBacklighting in LCD TVs
- * LoadSwitch
- * DC/DC Converter

MARKING

Type Code: Marking: 2N10



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	8	A
PD	Maximum Power Dissipation	0.5	W
TJ	Junction Temperature	150	°C
TSTG	Storage Temperature	-55~150	°C
RθJA	Thermal Resistance from Junction to Ambient	357	°C/W
TL	Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	260	°C

*: Repetitive rating: Pluse width limited by junction temperature.



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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
STATIC PARAMETERS						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	100			V
Gate-Source Threshold Voltage(Note1)	$V_{GS(TH)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	1	1.6	2.2	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(Note1)	$R_{DS(ON)}$	$V_{GS}=10V, I_D=1A$		260	286	m Ω
		$V_{GS}=4.5V, I_D=1A$		265	330	
Forward transconductance(Note1)	g_{fs}	$V_{DS}=5V, I_D=1.9A$		2		S
Diode forward voltage(note1)	V_{SD}	$I_S=1.3A, V_{GS}=0V$			1.2	V
DYNAMIC PARAMETERS(Note 2)						
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=50V, f=1MHz$		190		pF
Output Capacitance	C_{oss}			22		pF
Reverse Transfer Capacitance	C_{rss}			13		pF
Gate Resistance	R_g	$f=1MHz$	0.3		2.8	Ω
SWITCHING PARAMETERS(note2)						
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	$t_{d(on)}$	$V_{DD}=50V, R_L=39\Omega,$ $I_D=1.3A, V_{GEN}=4.5V,$ $R_g=1\Omega$			45	ns
Rise Time	t_r				39	
Turn-Off Delay Time	$t_{d(off)}$				26	
Fall Time	t_f				20	

Notes: 1. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

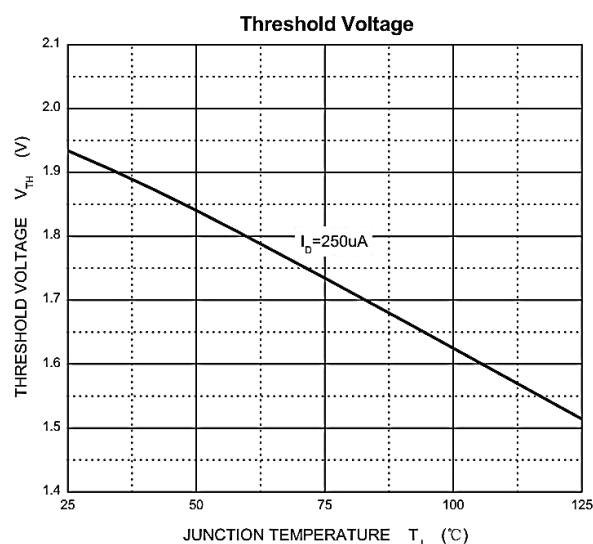
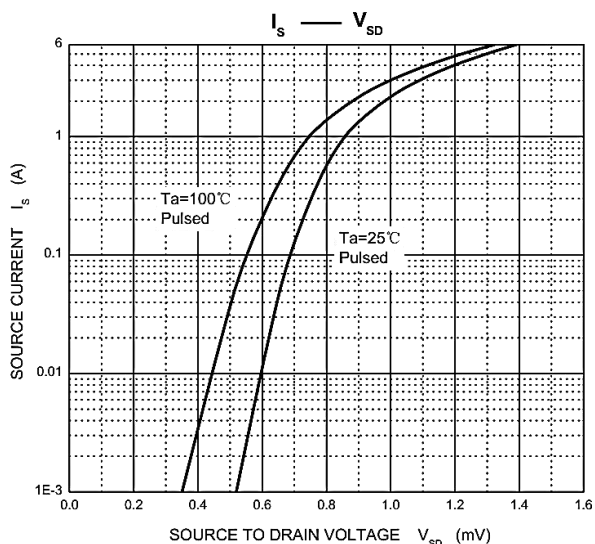
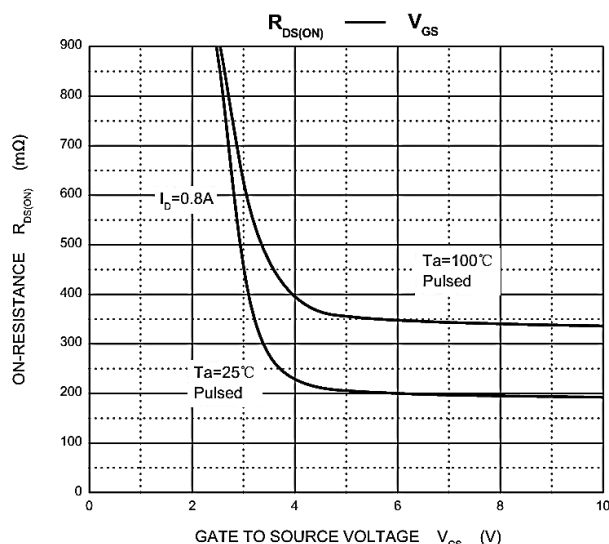
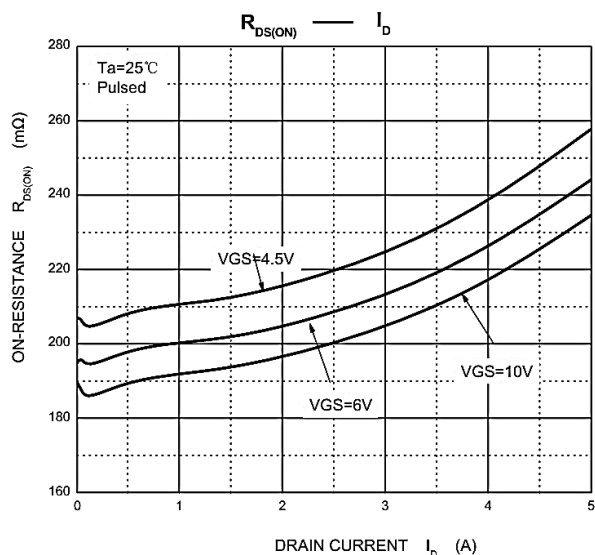
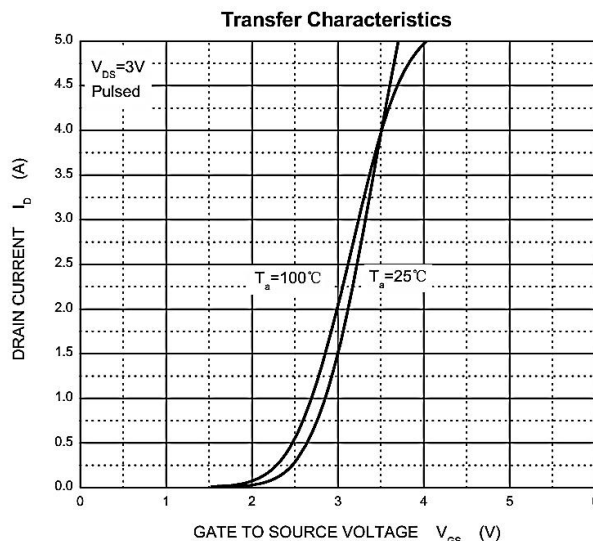
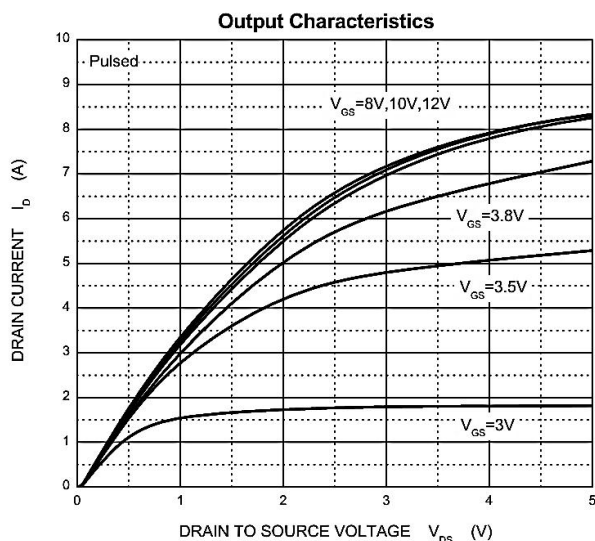
2. Guaranteed by design, not subject to production testing.



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TYPICAL CHARACTERISTICS

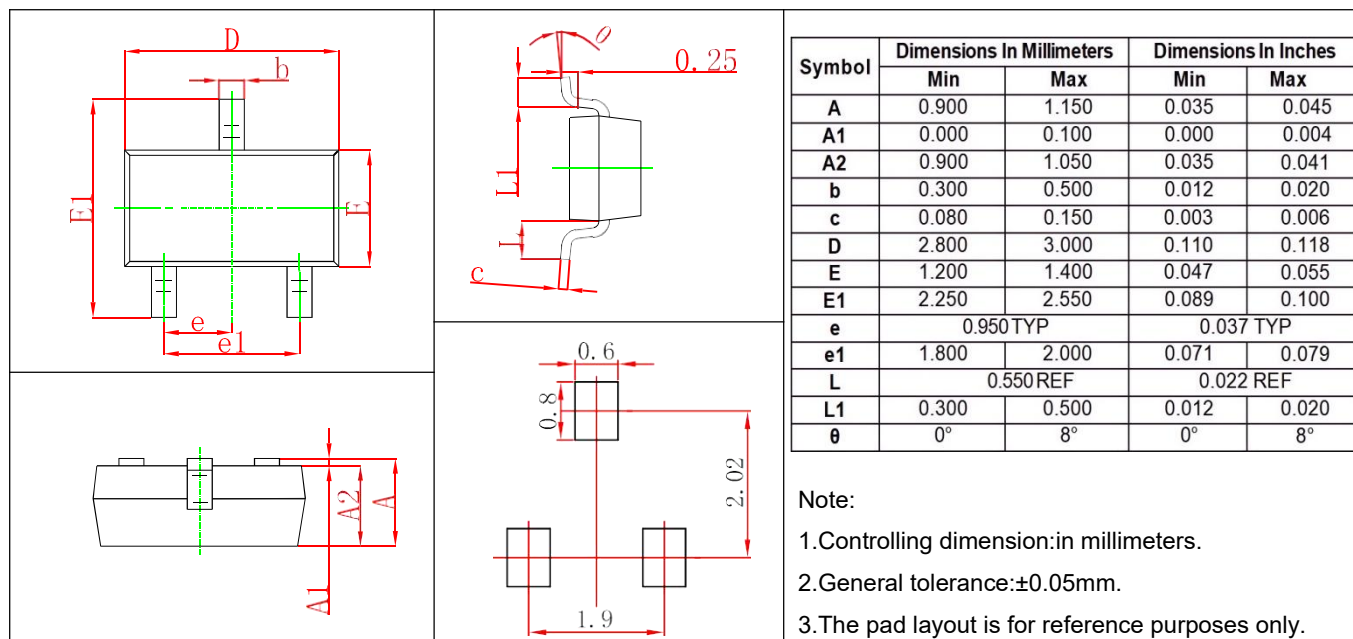




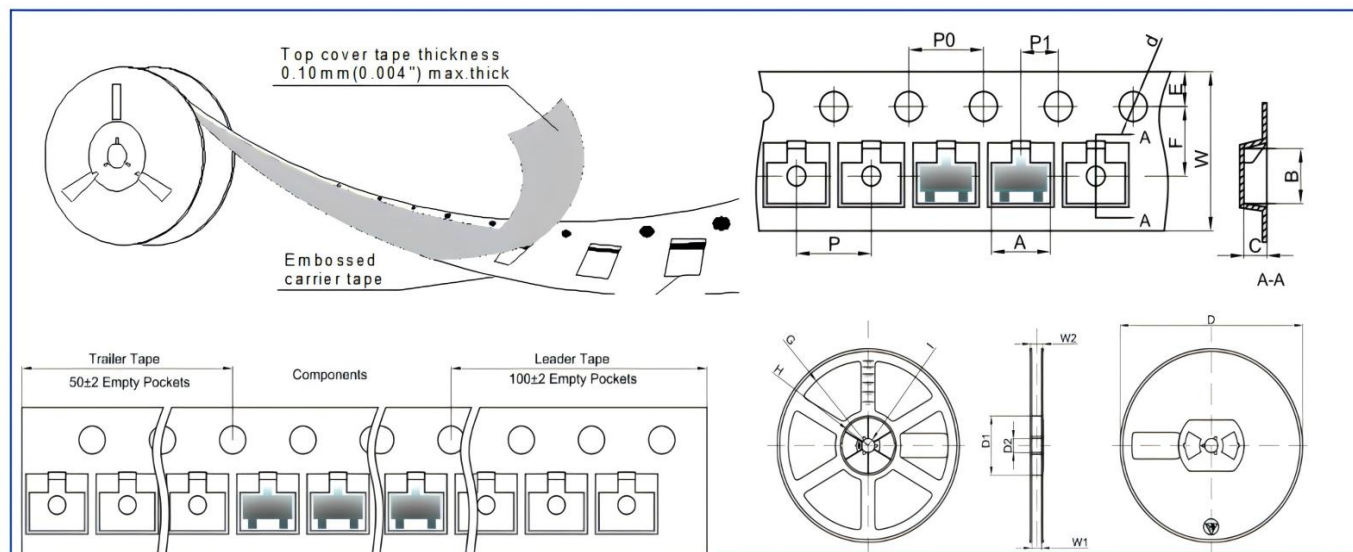
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SOT23 PACKAGE OUTLINE DIMENSIONS



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	