Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	25mΩ@10V	5.8A
	30mΩ@4.5V	
	40mΩ@2.5V	

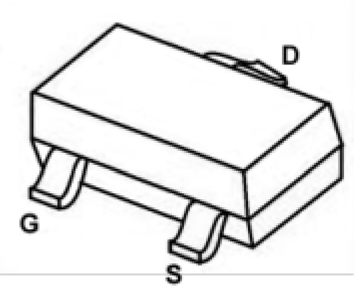
Feature

- TrenchFET Power MOSFET
- Excellent RDS(on) and Low Gate Charge

Application

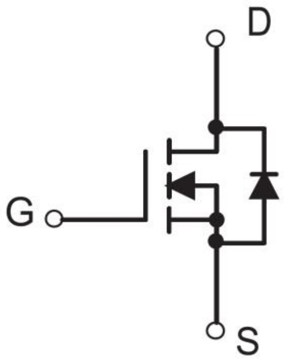
- DC-DC Converter
- Ideal for high-frequency switching and synchronous rectification
- Battery Switch

Package

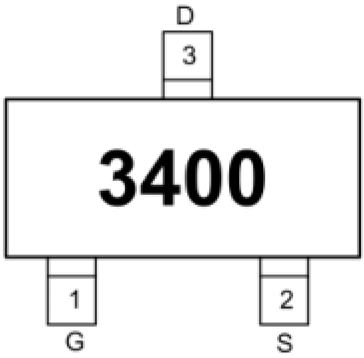


SOT-23

Circuit diagram



Marking



Absolute maximum ratings

(T_a=25℃ unless otherwise noted)

Parameter	**Symbol**	**Value**	**Unit**
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	5.8	A
Pulsed Drain Current1)	I_{DM}	30	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient2)	$R_{\theta JA}$	357	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

Electrical characteristics

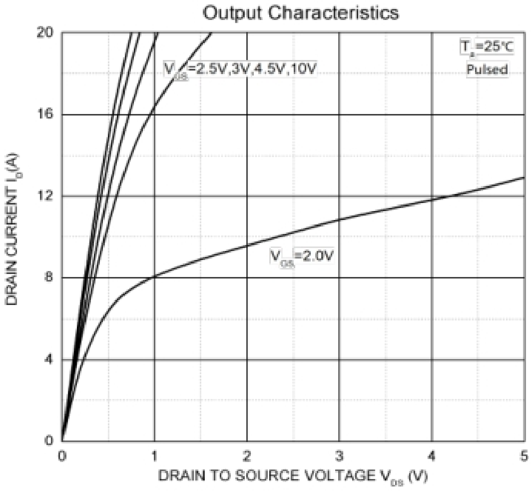
(T_A=25℃, unless otherwise noted)

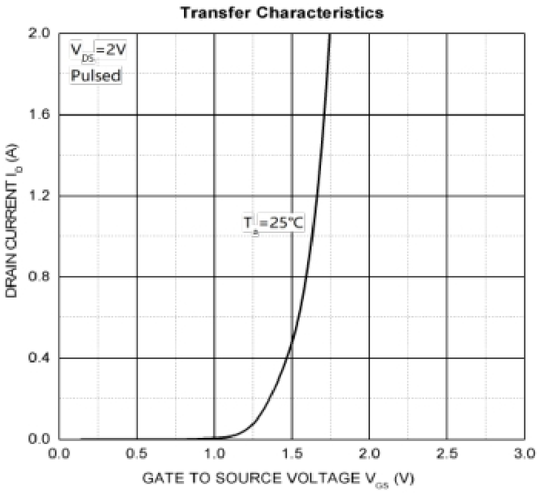
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$BV_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =24V, V_{GS} = 0V			1	uA
Gate-body leakage current	I_{GSS}	V_{GS} =±12V, V_{DS} = 0V			±0.1	uA
Gate threshold voltage (1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.6	0.85	1.3	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =5.8A		25	35	mΩ
		V_{GS} =4.5V, I_D =5A		30	40	
		V_{GS} =2.5V, I_D =4A		40	50	
Dynamic Characteristics4)						
Input capacitance	C_{iss}	V_{DS}=15V, V_{GS}=0V, f=1MHz			1050	pF
Output capacitance	C_{oss}			99		
Reverse transfer capacitance	C_{rss}			77		
Gate resistance	R_g	V_{DS} =0V, V_{GS} =0V, f =1MHz			3.6	Ω
Switching Characteristics4)						
Turn-on Delay Time	$T_{d(on)}$	V_{GS}=10V , V_{DS}=15V, R_L=2.7Ω, R_{GEN}= 3 Ω			5	nS
Turn-on Rise Time	T_r				7	
Turn-Off Delay Time	$T_{d(off)}$				40	
Turn-Off Fall Time	t_f				6	
Source-Drain Diode characteristics						
Diode Forward voltage3)	V_{SD}	V_{GS} =0V, I_S=1A		0.7	1.3	V

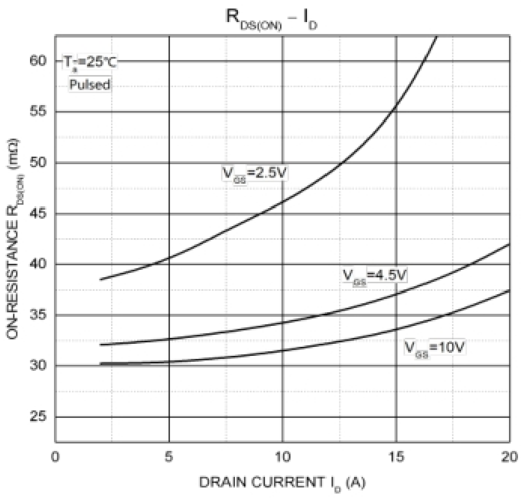
Note :

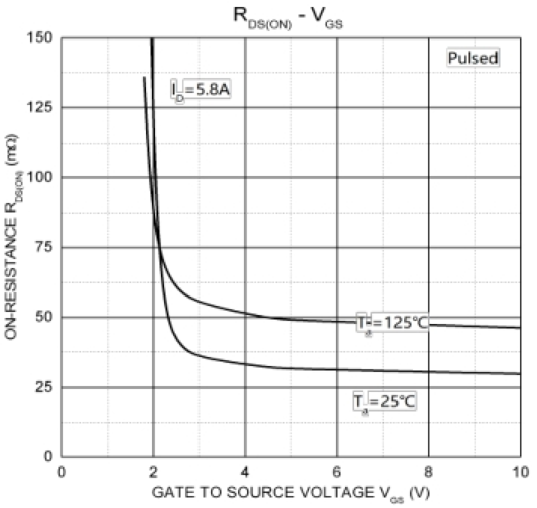
1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t < 5 sec.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production testing.

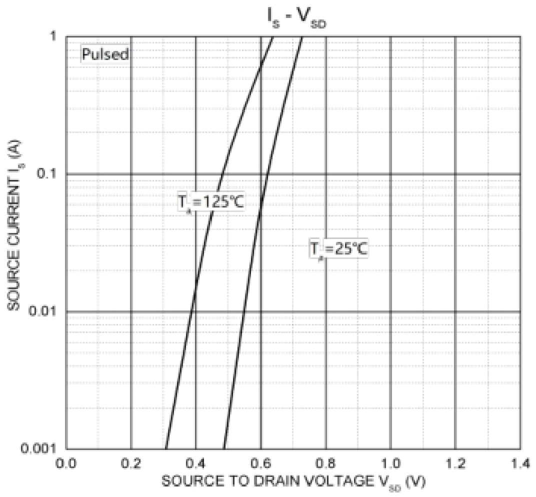
Typical Characteristics

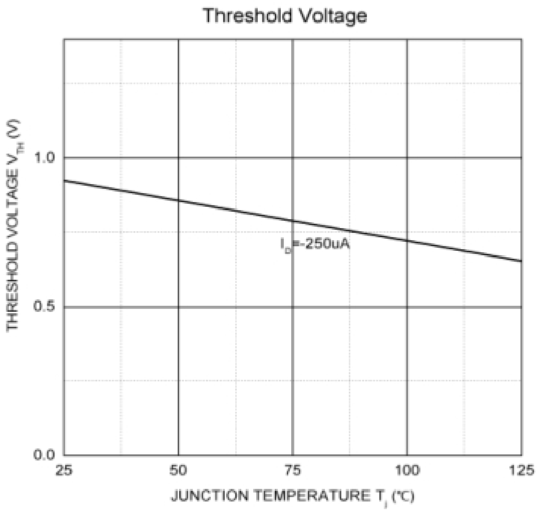

Output Characteristics


Transfer Characteristics

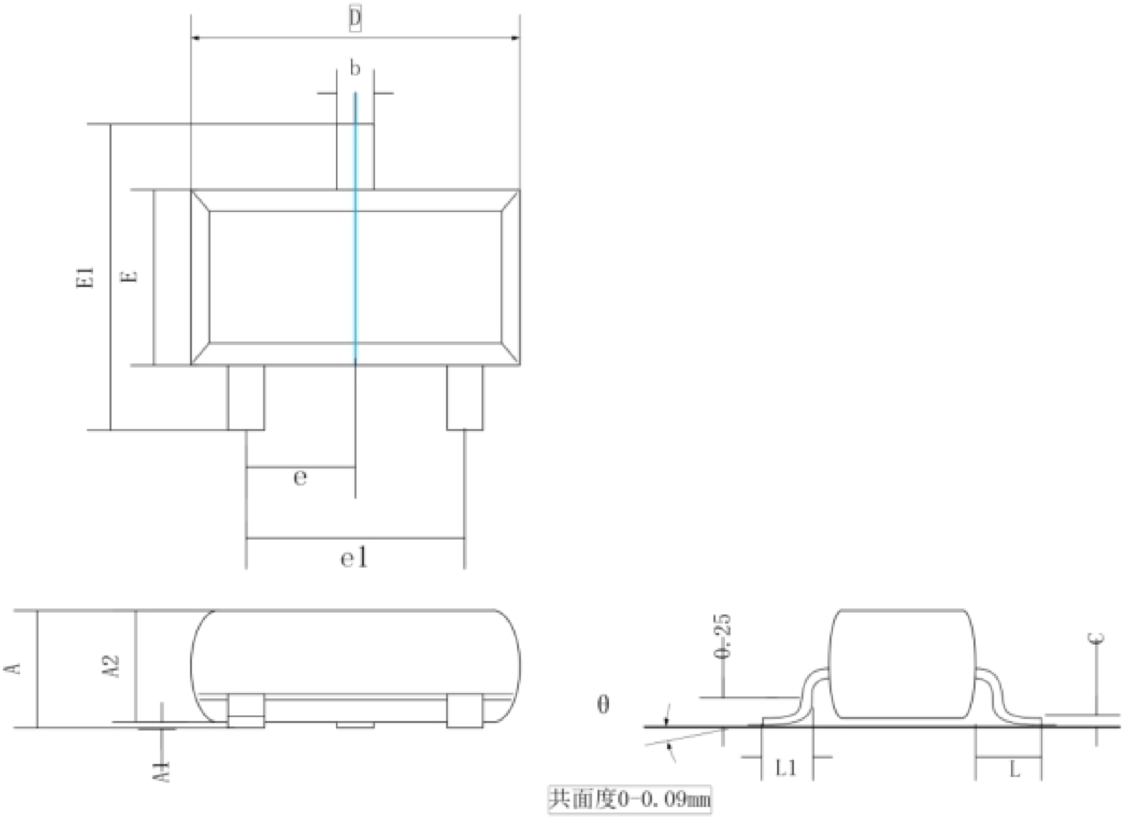

R$_{DS(ON)}$ – I$_D$


R$_{DS(ON)}$ - V$_{GS}$


I$_S$ - V$_{SD}$


Threshold Voltage

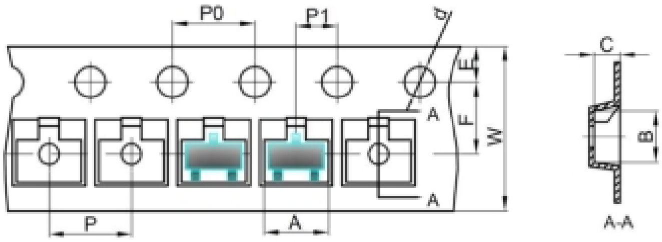
SOT-23 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50
θ	0°	8°

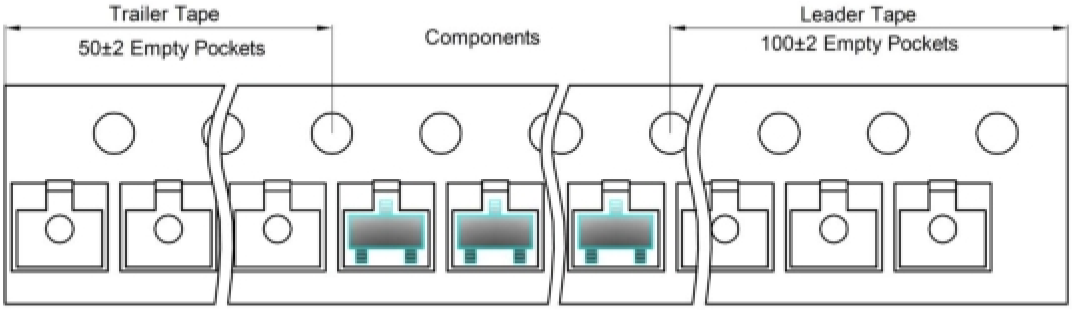
SOT-23 Tape and reel

- SOT-23 Enbossed Carrier Tape

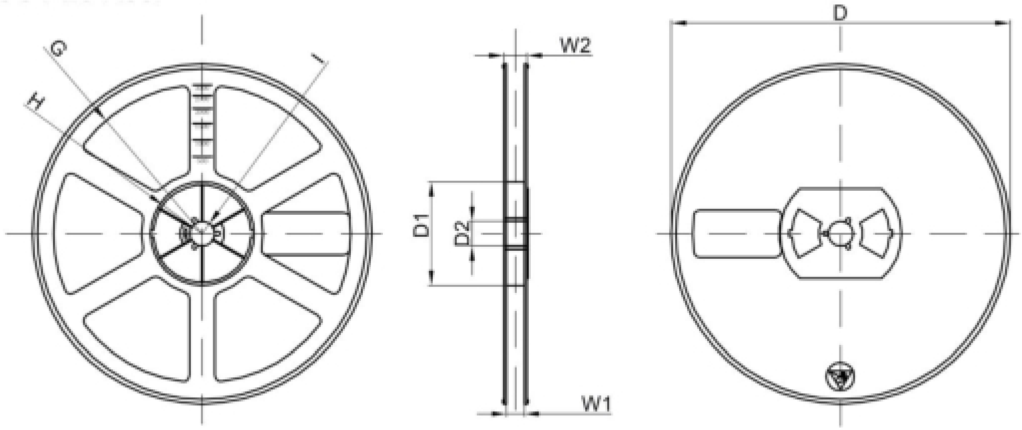


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

- SOT-23 Tape and Trailer



- SOT-23 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	30,000 pcs	203×203×195	120,000 pcs	438×438×220	