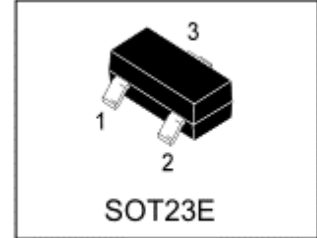


# N2294

## 110V N-Channel Enhancement-Mode MOSFET

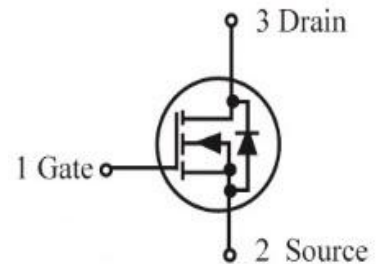
### 1. FEATURES

- VDS= 110V
- RDS(ON) ≤ 200 mΩ @VGS =10V, ID =3A
- RDS(ON) ≤ 260 mΩ @VGS =4.5V, ID =1A
- Super high density cell design for extremely low RDS(ON).
- Exceptional on-resistance and maximum DC current capability.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.



### 2. APPLICATIONS

- Power Management in Note book
- DC/DC Converter
- Load Switch



### 3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
N2294	N4L	3000/Tape&Reel

### 4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain–Source Voltage	VDSS	110	V
Gate–to–Source Voltage – Continuous	VGS	±20	V
Drain Current			
– Continuous TA = 25°C	ID	3	A
– Pulsed	IDM	10	

### 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Power Dissipation	PD	1.25	W
Thermal Resistance, Junction–to–Ambient	RθJA	100	°C/W
Junction and Storage temperature	TJ, Tstg	-55~+150	°C



**6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)**
**STATIC**

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Drain–Source Breakdown Voltage (VGS = 0V, ID = 250μA)	V(BR)DSS	110	-	-	V
Gate Threshold Voltage (VDS = VGS, ID = 250μA)	VGS(th)	1.0	-	3.0	V
Gate–Body Leakage (VDS = 0 V, VGS = ±20 V)	IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS=100 V, VGS=0 V)	IDSS	-	-	1	μA
Static Drain–Source On–State Resistance (VGS = 10 V, ID = 3 A) (VGS = 4.5 V, ID = 1 A)	RDS(on)	- -	160 200	200 260	mΩ
Forward Voltage (VGS = 0 V, IS = 6.5 A)	VSD	-	0.9	1.3	V

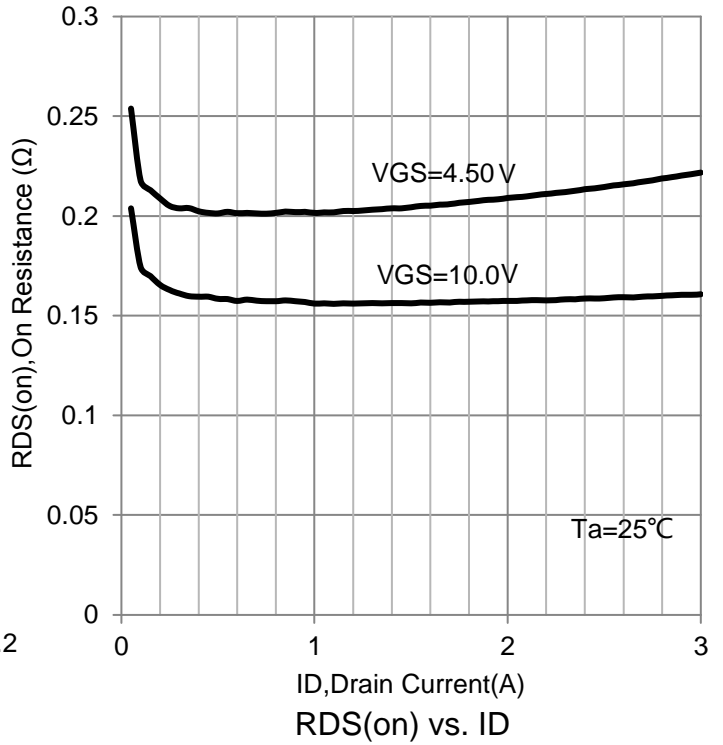
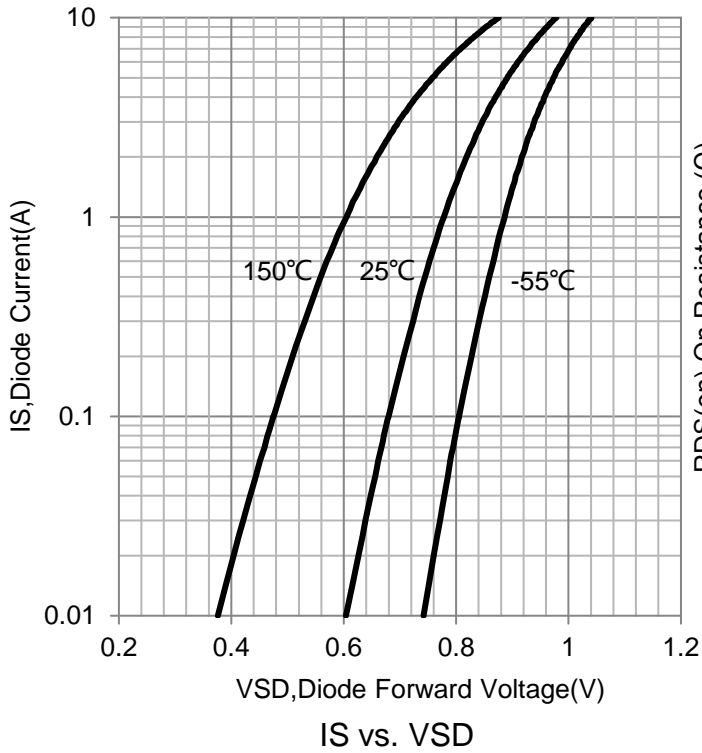
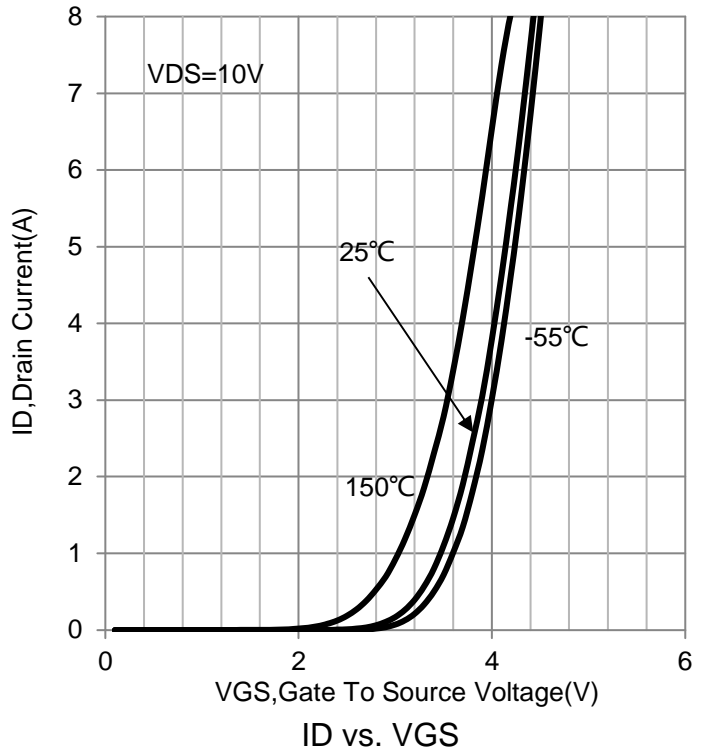
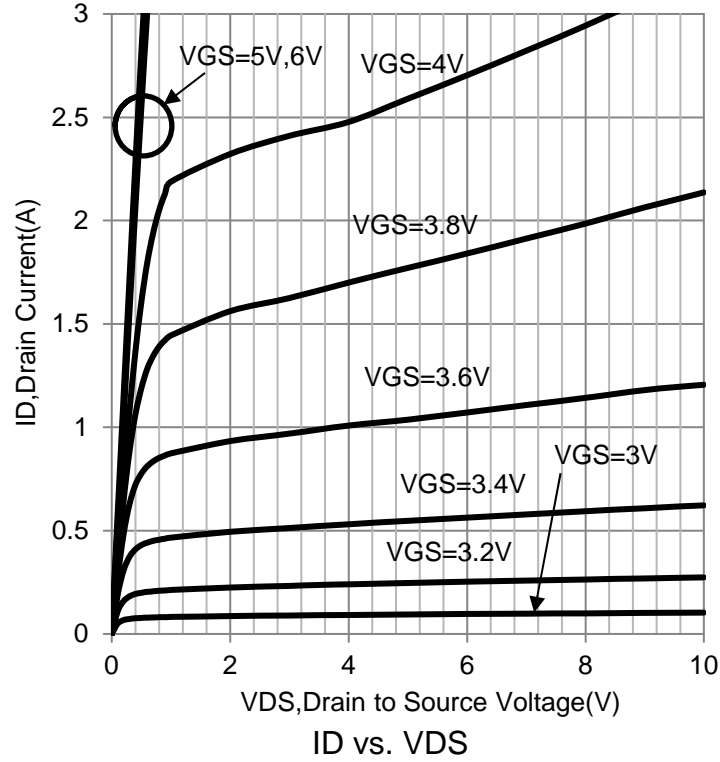
**DYNAMIC**

Total Gate Charge	(VDS =50V, VGS =5V, ID =6.5A)	Qg	-	8.2	-	nC
Gate–Source Charge		Qgs	-	4.3	-	
Gate–Drain Charge		Qgd	-	5.3	-	
Input Capacitance	(VDS =25V, VGS =0V, f=1MHz)	Ciss	-	396	-	pF
Output Capacitance		Coss	-	47	-	
Reverse Transfer Capacitance		Crss	-	30	-	
Turn-On Delay Time	(VDD =50V, RL =50Ω, VGEN =10V, RG =2.5Ω)	td(on)	-	9.6	-	ns
Rise Time		tr	-	4.2	-	
Turn-Off Delay Time		td(off)	-	25	-	
Fall Time		tf	-	3.2	-	

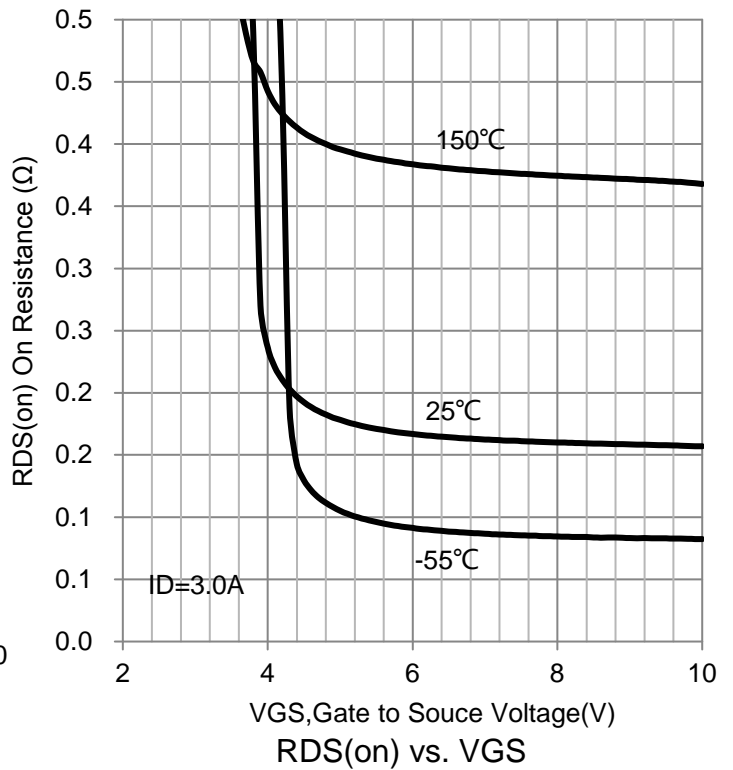
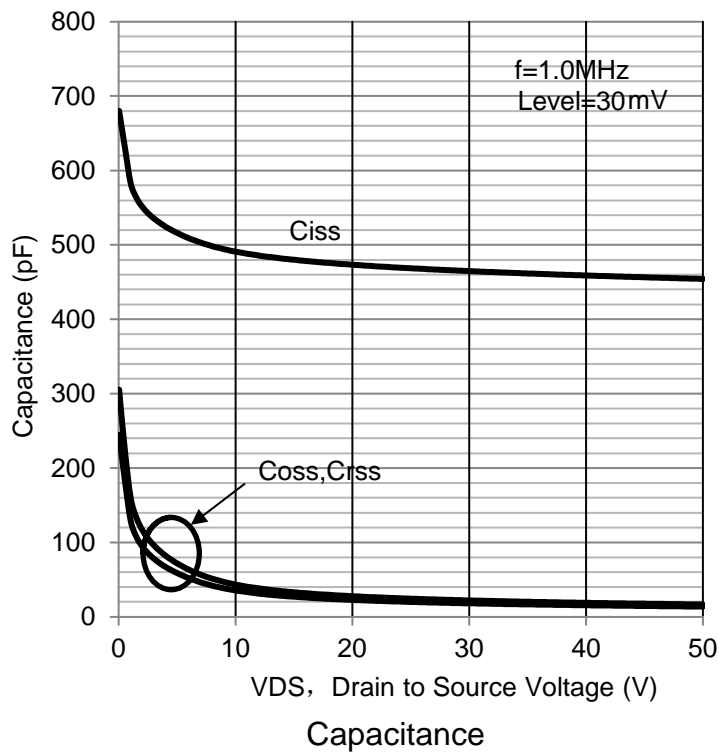
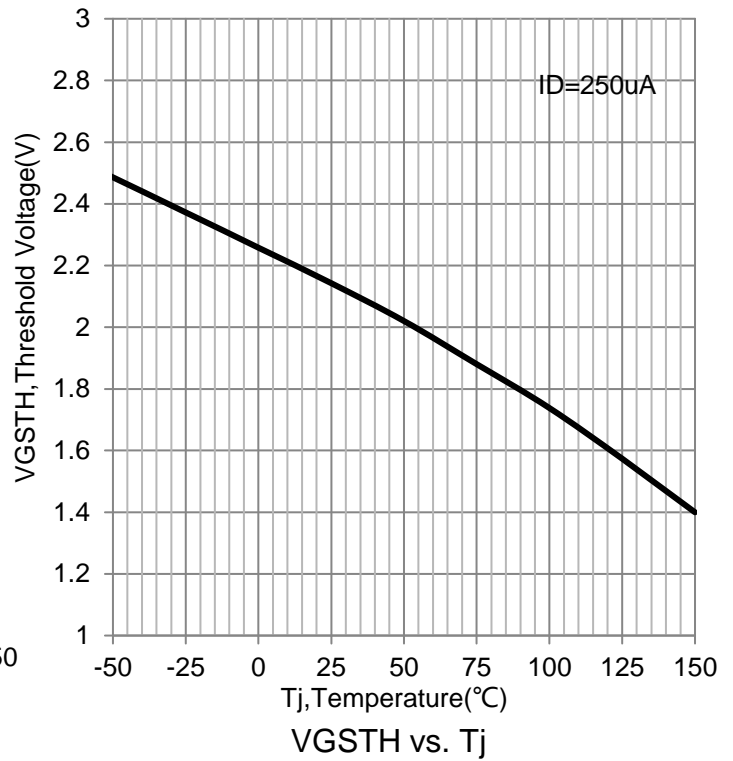
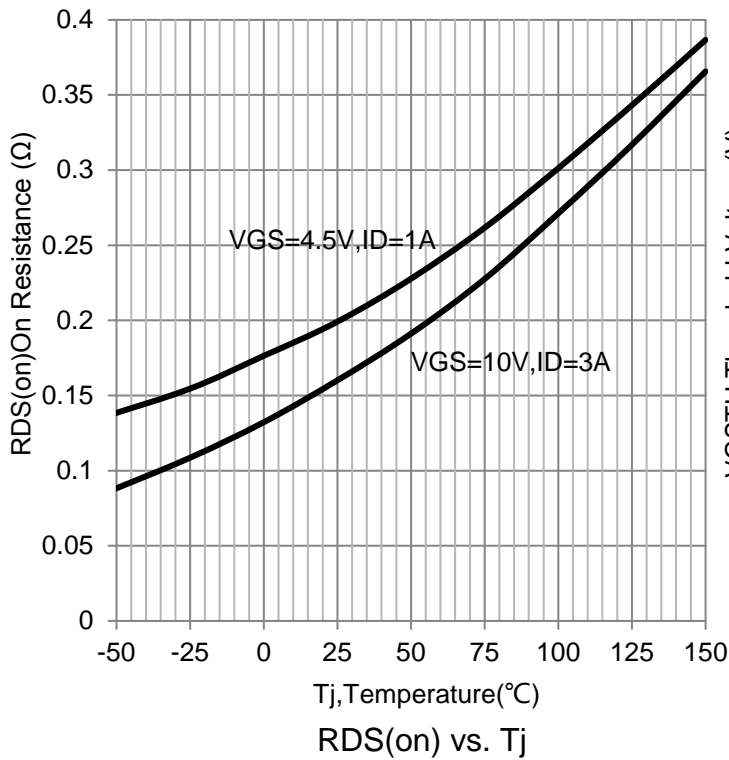
Note 1:Pulse Test: Pulse Width ≤300 μs, Duty Cycle ≤2.0%.

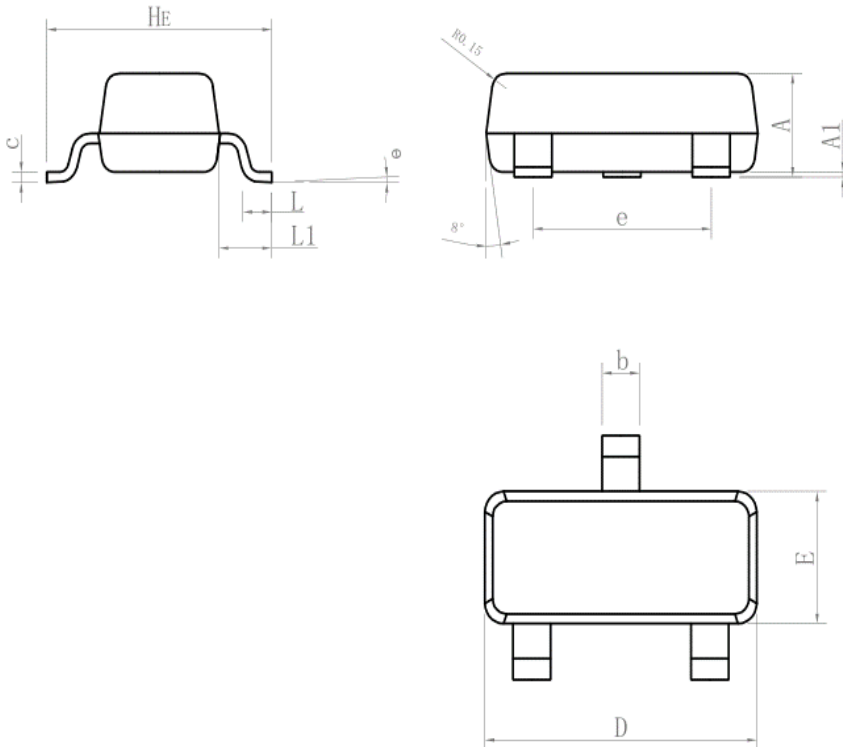


7.ELECTRICAL CHARACTERISTICS CURVES



7.ELECTRICAL CHARACTERISTICS CURVES(Con.)

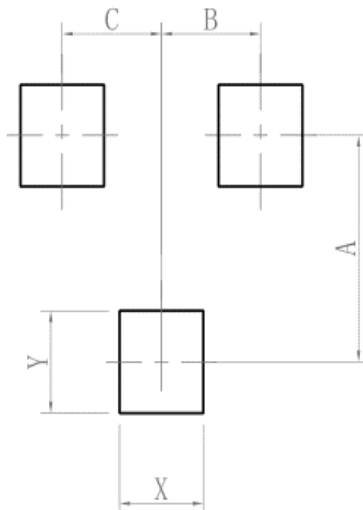


**8.OUTLINE AND DIMENSIONS**
**SOT-23E**


SOT23E			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.06	0.10
b	0.30	0.40	0.50
c	0.10	0.15	0.20
D	2.80	2.90	3.00
E	1.20	1.30	1.40
e	1.80	1.90	2.00
L	0.20	0.40	0.60
L1	0.45	0.55	0.65
HE	2.20	2.40	2.60
θ	0°	-	10°
All Dimensions in mm			

**GENERAL NOTES**

- 1.Top package surface finish Ra0.4±0.2um
- 2.Bottom package surface finish Ra0.7±0.2um
- 3.Side package surface finish Ra0.4±0.2um

**9.SOLDERING FOOTPRINT**


SOT23E	
DIM	(mm)
X	0.80
Y	0.90
A	2.00
B	0.95
C	0.95

