

1. Description

The NX3008NBKW,115(ES) is N-Channel enhancement MOS Field Effect Transistor. Uses advanced trench technology and design to provide excellent $R_{DS(ON)}$ with low gate charge. Device is suitable for use in DC-DC conversion, power switch and charging circuit. Standard Product NX3008NBKW,115(ES) is Pb-free.

2. Features

- 30V, $R_{DS(ON)}=504m\Omega(Typ.) @ V_{GS}=10V$
- $R_{DS(ON)}=673m\Omega(Typ.) @ V_{GS}=4.5V$
- High density cell design for low $R_{DS(on)}$
- Material: Halogen free
- Reliable and rugged
- Avalanche Rated
- Low leakage current
- ESD Protection - HBM : 2kV

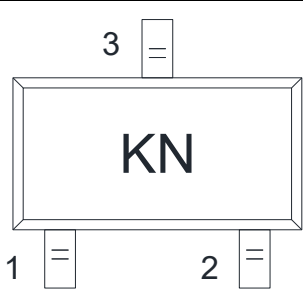
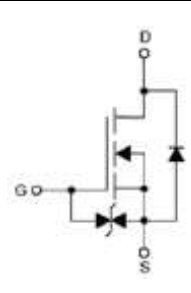
3. Applications

- PWM applications
- Load switch
- Power management in portable/desktop PCs
- DC/DC conversion

4. Ordering Information

Part Number	Package	Marking	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
NX3008NBKW,115(ES)	SOT-323	KN	Halogen free	Tape & Reel	3,000 PCS	UL 94V-0	7 inches

5. Pin Configuration and Functions

Pin	Function	Outline	Circuit Diagram
1	Gate		
2	Source		
3	Drain		

6. Specification

Absolute Maximum Rating & Thermal Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		BV_{DSS}	30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	$T_A=25^{\circ}C$	I_D	0.5	A
	$T_A=100^{\circ}C$		0.3	
Maximum Power Dissipation	$T_A=25^{\circ}C$	P_D	0.35	W
Pulsed Drain Current		I_{DM}	2.3	A
Operating Junction Temperature		T_J	-55 to 150	°C
Lead Temperature		T_L	260	°C
Storage Temperature Range		T_{stg}	-55 to 150	°C

Thermal resistance ratings

Single Operation					
Parameter		Symbol	Typical	Maximum	Unit
Junction-to-Ambient Thermal Resistance	$t \leq 10s$	$R_{\theta JA}$		357	°C/W

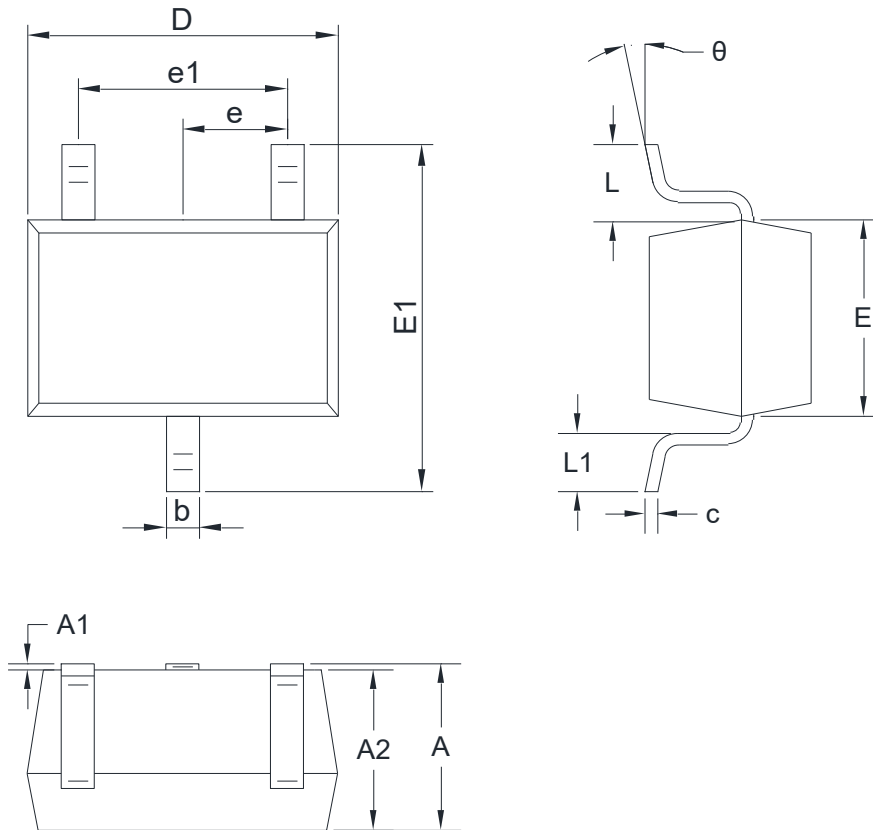
Electrical Characteristics

At TA = 25°C unless otherwise specified

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS						
Drain-to-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250uA	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V			1	uA
Gate-to-source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±10	uA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{GS} =V _{DS} , I _D =250uA	0.9	1.2	1.7	V
Drain-to-source On-resistance	R _{DS(on)}	V _{GS} =10V, I _D =0.2A		504	599	mΩ
		V _{GS} =4.5V, I _D =0.15A		673	802	
CHARGES, CAPACITANCES AND GATE RESISTANCE						
Input Capacitance	C _{ISS}	V _{GS} =0V, f=1MHz, V _{DS} =15V		18		pF
Output Capacitance	C _{OSS}			7		
Reverse Transfer Capacitance	C _{RSS}			3		
Total Gate Charge	Q _{G(TOT)}	V _{GS} =0 to 10V, V _{DS} =15V, I _D =0.3A		1.7		nC
Gate-to-Source Charge	Q _{GS}			0.5		
Gate-to-Drain Charge	Q _{GD}			0.7		
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	t _{d(ON)}	V _{GS} =10V, V _{DD} =10V, I _D =0.2A, R _G =10Ω		1.7		ns
Rise Time	t _r			10		
Turn-Off Delay Time	t _{d(OFF)}			10		
Fall Time	t _f			22		
BODY DIODE CHARACTERISTICS						
Forward Voltage	V _{SD}	V _{GS} =0V, I _S =0.2A			1.2	V

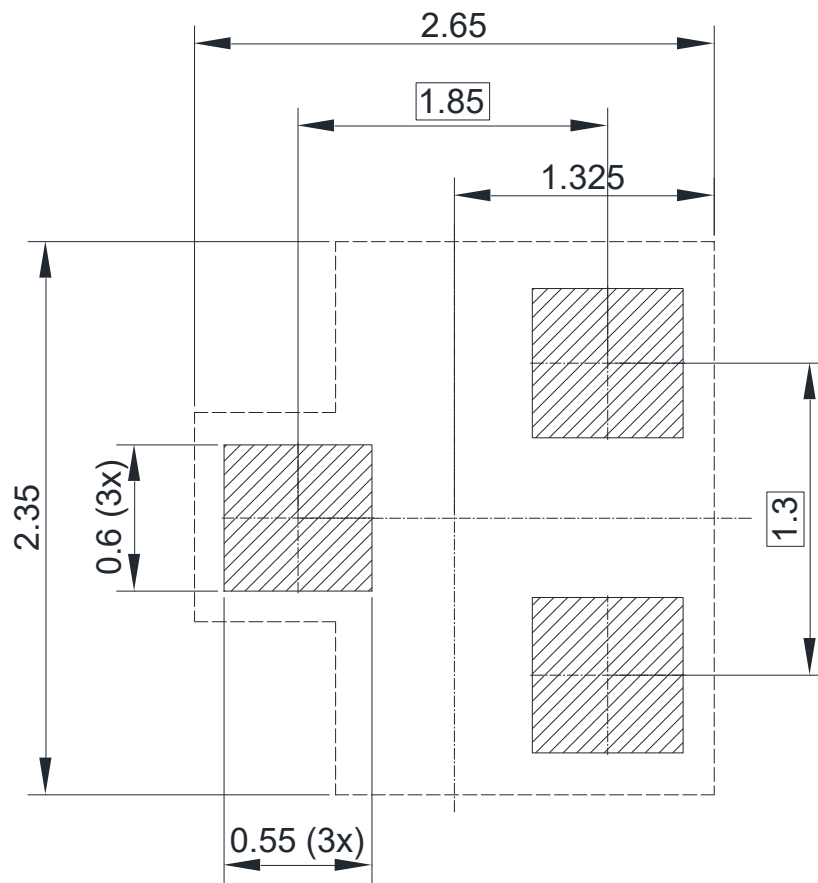
7. Dimension (SOT-323)

POD(Z)



Symbol	Millimeters		Symbol	Millimeters	
	Min	Max		Min	Max
A	0.80	1.00	E1	2.05	2.35
A1	0.00	0.10	e	0.65 TYP	
A2	0.80	0.90	e1	1.20	1.40
b	0.20	0.40	L	0.45 REF	
c	0.08	0.15	L1	0.26	0.46
D	2.00	2.20	θ	0°	8°
E	1.15	1.35			

8. Recommended Soldering Footprint



DIMENSIONS: MILLIMETERS

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