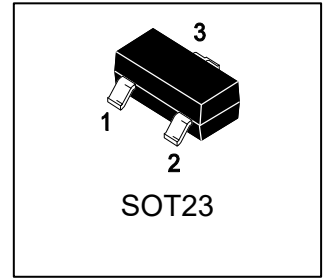


# N3432L

## N-Channel 30-V (D-S) MOSFET

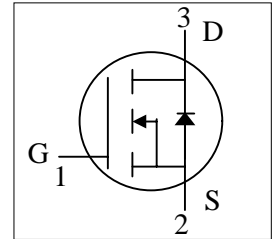
### 1. FEATURES

- Low RDS(on) trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.



### 2. APPLICATION

- Power Routing
- DC/DC Conversion
- Motor Drives



### 3. ORDERING INFORMATION

Device	Marking	Shipping
N3432L	M3C	3000/Tape&Reel

### 4. MAXIMUM RATINGS(Ta = 25°C unless otherwise stated)

Parameter	Symbol	Limits	Unit	
Drain-to-Source Voltage	VDSS	30	V	
Gate-to-Source Voltage	VGS	±20	V	
Avalanche Current	IAS	9	A	
Avalanche energy L=0.1mH	EAS	4	mJ	
Continuous Drain Current	ID	TC =25°C	9	A
		TC =70°C	6	
		TA =25°C (Note 1)	6	
		TA =70°C (Note 1)	4	
Pulsed Drain Current (Note 2)	IDM	29		
Power Dissipation	PD	TC =25°C	2.9	W
		TC =70°C	1.6	
		TA =25°C (Note 1)	1.4	
		TA =70°C (Note 1)	0.8	
Operating Junction Temperature	TJ	-55 ~+150	°C	
Storage Temperature Range	Tstg	-55 ~+150		

1. 1-in<sup>2</sup> 2oz Cu PCB board
2. Pulse width limited by maximum junction temperature.

### 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit	
Maximum Junction-to-Ambient(Note 1)	RθJA	t ≤ 10s	90	°C/W
		Steady State	125	
Maximum Junction-to-Case	RθJC	45		



**6. ELECTRICAL CHARACTERISTICS**

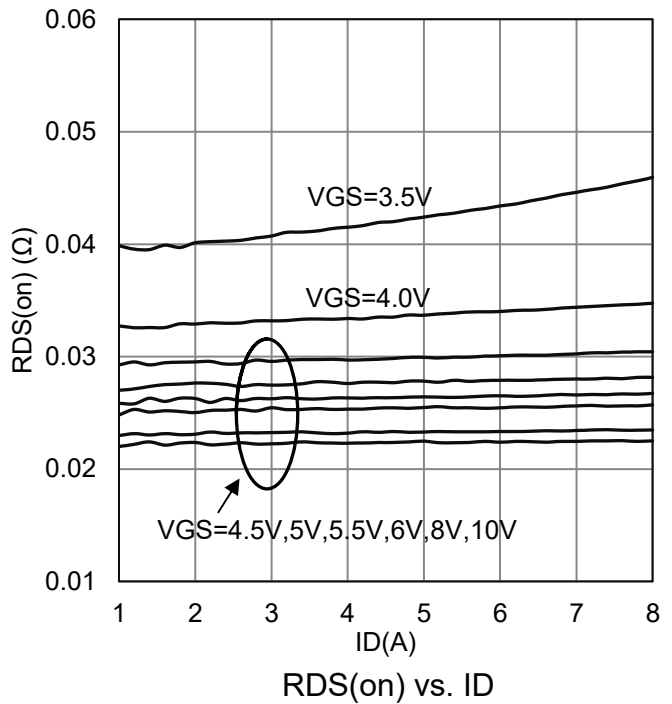
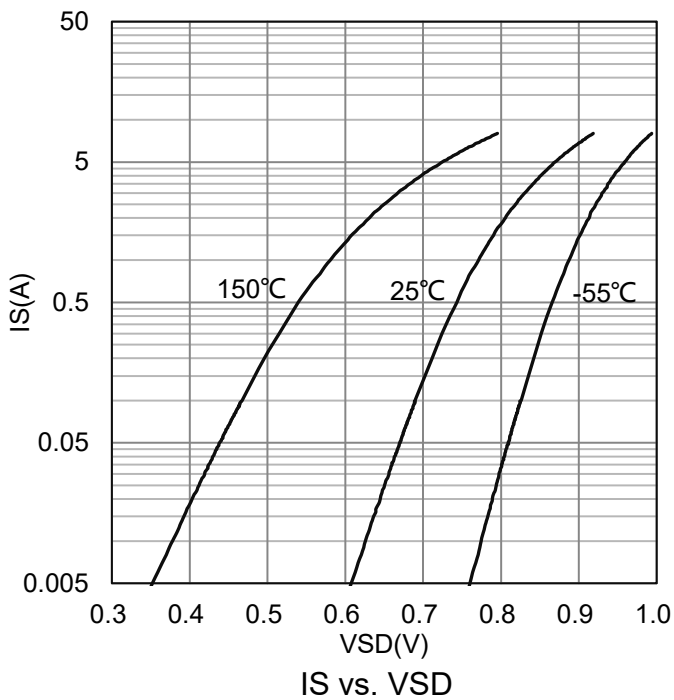
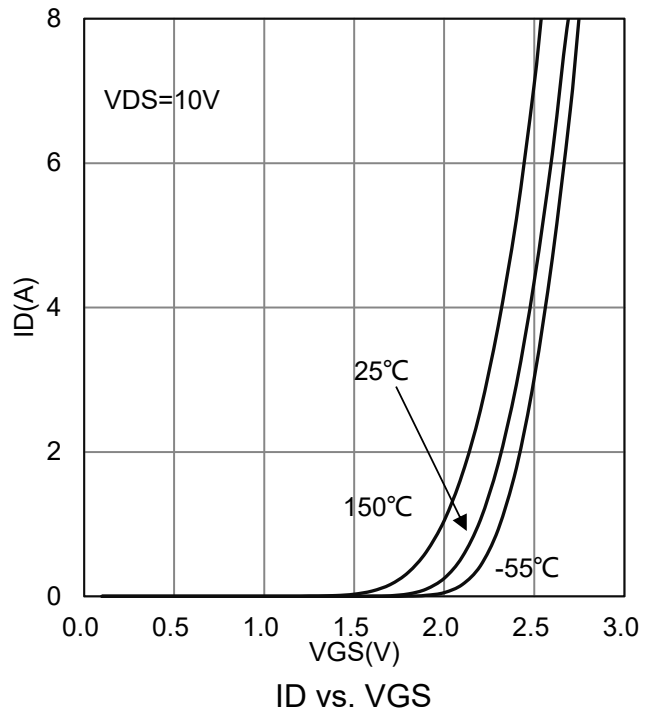
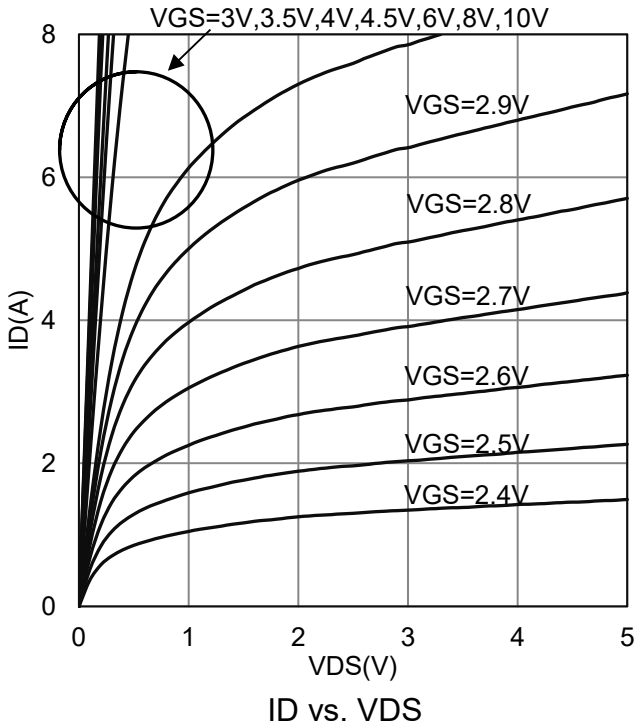
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Gate-Source Threshold Voltage (VDS = VGS, ID = 250 $\mu$ A)	VGS(th)	1	1.5	3	V	
Gate-Body Leakage (VDS = 0 V, VGS = $\pm$ 20 V)	IGSS	-	-	$\pm$ 100	nA	
Zero Gate Voltage Drain Current (VDS = 24 V, VGS = 0 V)	IDSS	-	-	1	$\mu$ A	
Drain-Source On-Resistance(Note 3) (VGS = 10 V, ID = 6 A) (VGS = 4.5 V, ID = 5 A)	RDS(on)	-	22 32	28 42	m $\Omega$	
Diode Forward Voltage(Note 3) (IS = 0.5A, VGS = 0 V)	VSD	-	-	1.3	V	
Dynamic(Note 4)						
Total Gate Charge	(VDS = 15 V, VGS = 4.5 V, ID = 4 A)	Qg	-	5.12	-	nC
Gate-Source Charge		Qgs	-	1.32	-	
Gate-Drain Charge		Qgd	-	2.2	-	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1 Mhz)	Ciss	-	511	-	pF
Output Capacitance		Coss	-	56	-	
Reverse Transfer Capacitance		Crss	-	50.3	-	
Turn-On Delay Time	(VDS = 15 V, RL = 1.9 $\Omega$ , ID = 4 A, VGEN = 10 V, RGEN = 6 $\Omega$ )	td(on)	-	24	-	ns
Rise Time		tr	-	34	-	
Turn-Off Delay Time		td(off)	-	46	-	
Fall Time		tf	-	44	-	

3. Pulse test: PW  $\leq$  300 $\mu$ s duty cycle  $\leq$  2%.

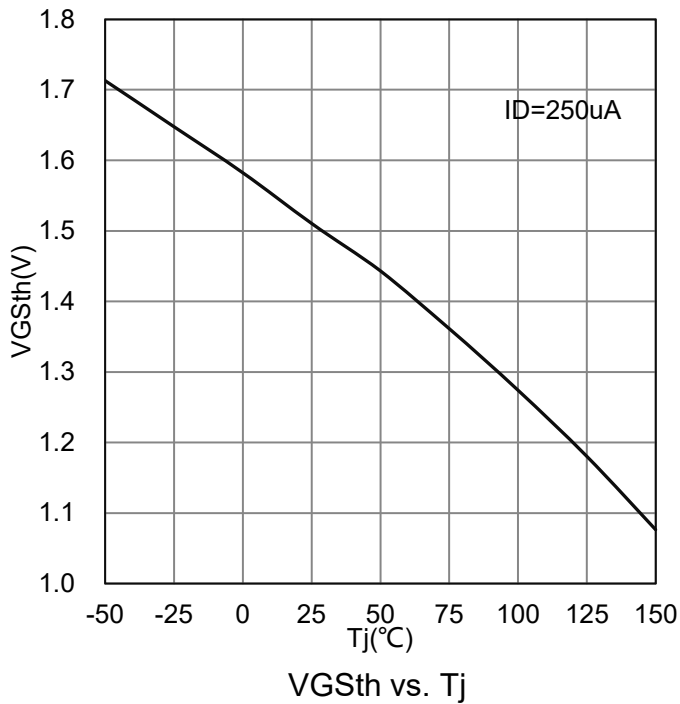
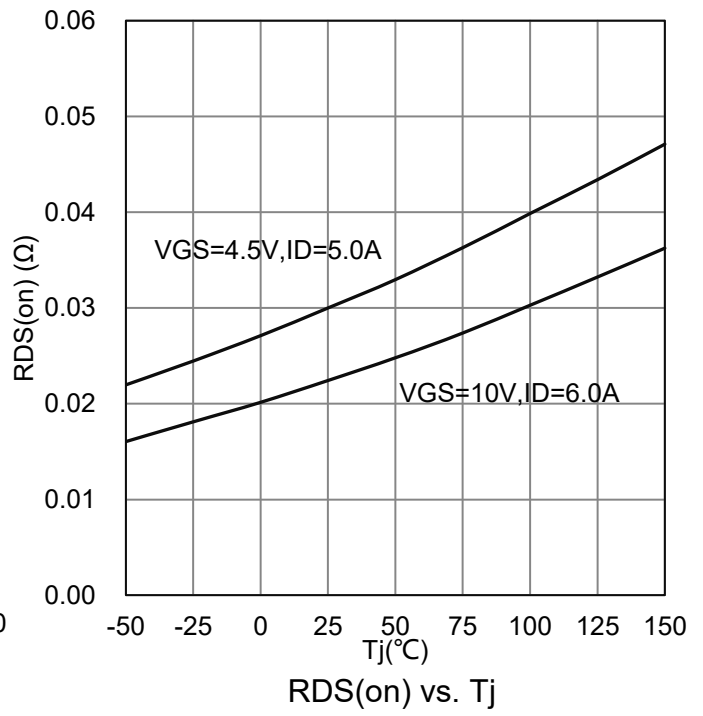
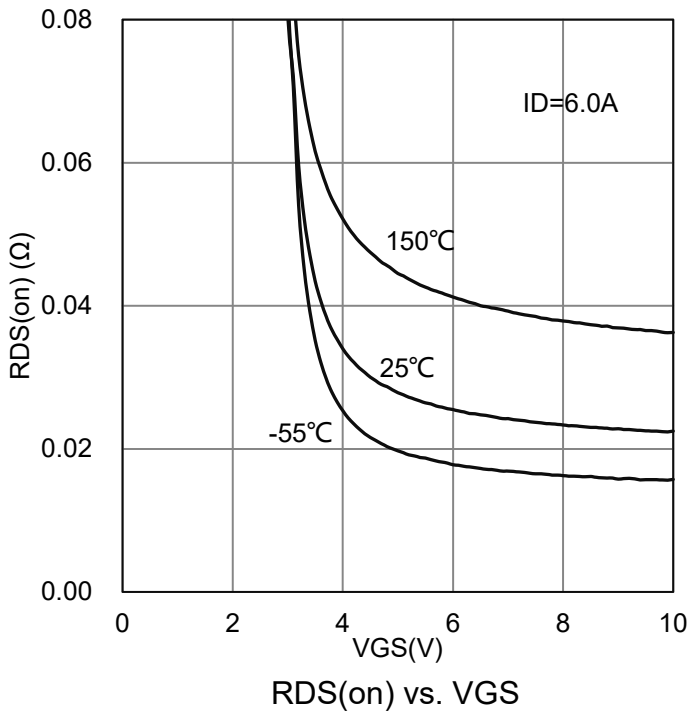
4. Guaranteed by design, not subject to production testing.



7. ELECTRICAL CHARACTERISTICS CURVES



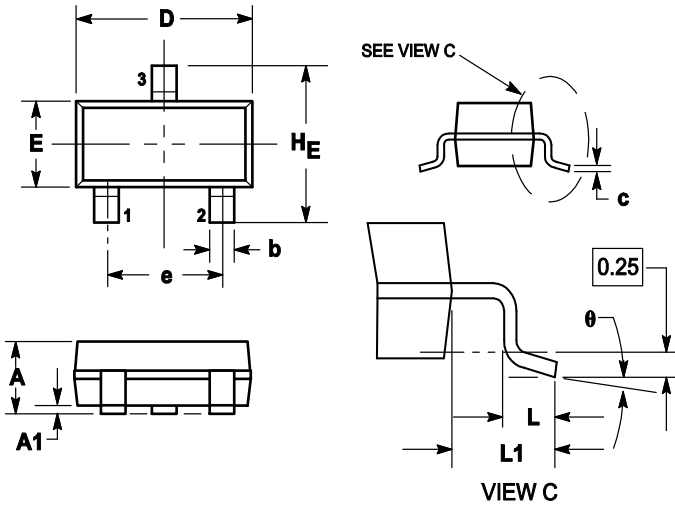
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



**8. OUTLINE AND DIMENSIONS**

Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1	1.11	0.035	0.04	0.044
A1	0.01	0.06	0.1	0.001	0.002	0.004
b	0.37	0.44	0.5	0.015	0.018	0.02
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.9	3.04	0.11	0.114	0.12
E	1.20	1.3	1.4	0.047	0.051	0.055
e	1.78	1.9	2.04	0.07	0.075	0.081
L	0.10	0.2	0.3	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
H <sub>E</sub>	2.10	2.4	2.64	0.083	0.094	0.104
θ	0°	---	10°	0°	---	10°

**9. SOLDERING FOOTPRINT**
