



ON Semiconductor

http://onsemi.com

40 VOLTS, 5.0 AMPS NPN LOW $V_{CE(sat)}$ TRANSISTOR EQUIVALENT $R_{DS(on)}$ 38 m Ω

Features

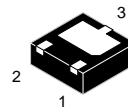
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MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

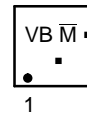
Rating	Symbol	Max	Unit
Collector-Emitter Voltage	V_{CEO}	40	Vdc
Collector-Base Voltage	V_{CB}		

THERMAL CHARACTERISTICS



WDFN3
CASE 506AU

MARKING DIAGRAM



VB = Specific Device Code

M = Date Code

■ = Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
NSS40501UW3T2G	WDFN3 (Pb-Free)	3000/ Tape & Reel
NSV40501UW3T2G	WDFN3 (Pb-Free)	3000/ Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

Characteristic	Symbol	Max	Unit
Total Device Dissipation, $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D (Note 1)	875 7.0	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$ (Note 1)		
	P_D (Note 2)	1.5 11.8	W mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$ (Note 2)	85	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction-to-Lead #3	$R_{\theta JL}$ (Note 2)	23	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{stg}		

NSS40501UW3, NSV40501UW3

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typical	Max	Unit
OFF CHARACTERISTICS					
Collector - Emitter Breakdown Voltage ($I_C = 10\text{ mA}$, $I_B = 0$)	$V_{(BR)CEO}$	40	-	-	Vdc
Collector - Base Breakdown Voltage ($I_C = 0.1\text{ mA}$, $I_E = 0$)	$V_{(BR)CBO}$	40	-	-	Vdc
Emitter - Base Breakdown Voltage ($I_E = 0.1\text{ mA}$, $I_C = 0$)	$V_{(BR)EBO}$				

NSS40501UW3, NSV40501UW3

NSS40501UW3, NSV40501UW3

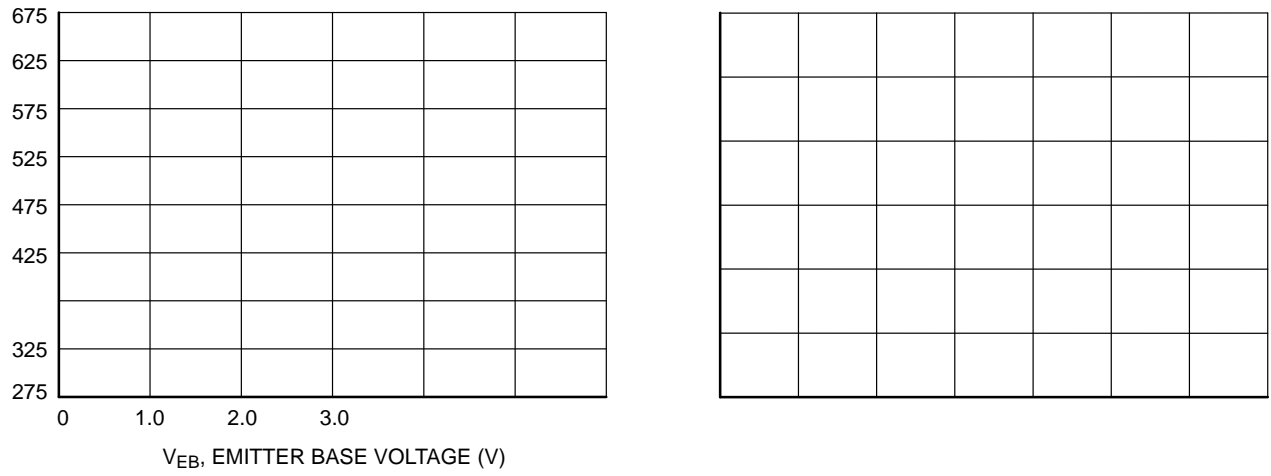
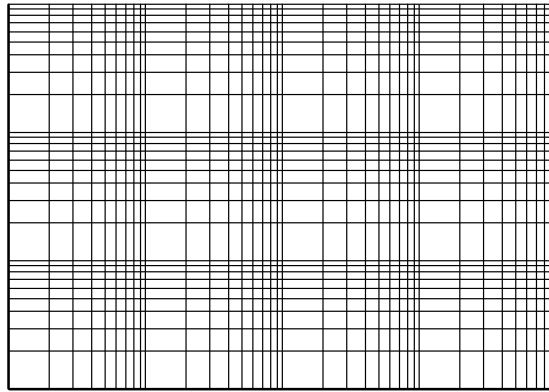


Figure 7. Input Capacitance



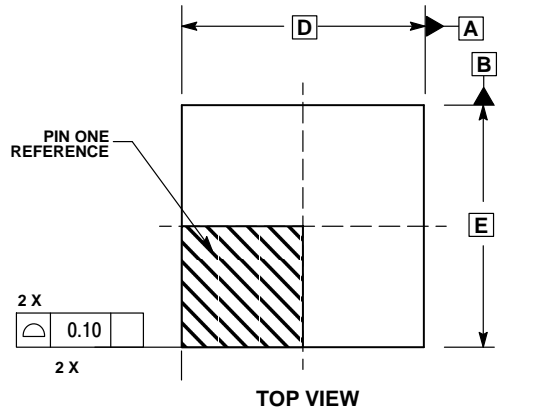
V_{CE} (V_{dc})



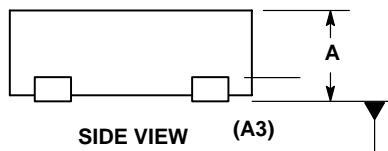
WDFN3 2x2, 1.3P
CASE 506AU
ISSUE A

DATE 18 AUG 2016

SCALE 4:1

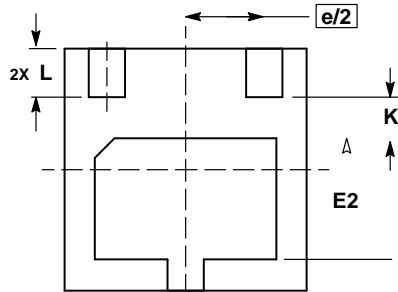


TOP VIEW



SIDE VIEW (A3)

D2



	MILLIMETERS			
	3X MIN	NOM	MAX	MIN
A1	0.70	0.75	0.80	0.28
A	0.00	0.20 REF	0.05	0.000
b	0.25	0.30	0.35	0.010
D	1.40	2.00 BSC	1.60	0.055
E	1.50	2.00 BSC	1.10	0.035
E2	0.90	1.00	1.10	0.035

BOTTOM VIEW

NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994 .
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.25 AND 0.30 MM FROM TERMINAL.
4. COPLANARITY APPLIES TO THE EXPOSED PAD AS WELL AS THE TERMINALS.

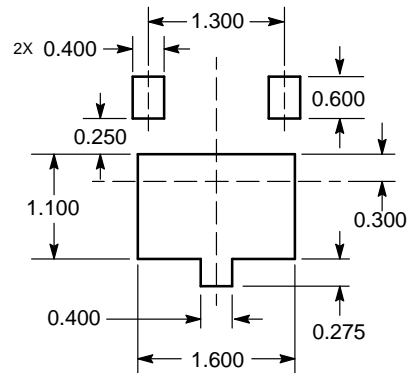
	NOM	MAX
	0.030	0.031
	0.002	0.002
	0.008 REF	
	0.012	0.014
	0.079 BSC	
	0.059	0.063
	0.079 BSC	
	0.039	0.043
e	1.30 BSC	0.051 BSC
K	0.35 REF	0.014 REF
L	0.35	0.40
	0.45	0.014
	0.016	0.018

GENERIC MARKING DIAGRAM*



XX = Specific Device Code
M = Date Code

SOLDERING FOOTPRINT*



DIMENSIONS: MILLIMETERS

*For additional information on our Pb-Free strategy and soldering details, please download the onsemi Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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