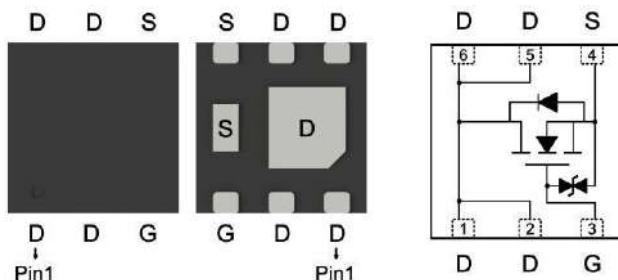


N-Channel Enhancement Mode Power MOSFET

Features:

- Low On Resistance
- Low Gate Charge
- Fast Switching Characteristic
- Pb-free lead plating and halogen-free
- ESD protected gate

DFNWB2×2-6L-J



Product Summary

BV_{DSS}	100	V
$R_{DS(ON)}$ typ. @ $V_{GS}=10V$, $I_D=2A$	62	mΩ
$R_{DS(ON)}$ typ. @ $V_{GS}=4.5V$, $I_D=2A$	77	
I_D @ $V_{GS}=10V$, $T_C=25^\circ C$	8.5	A
I_D @ $V_{GS}=10V$, $T_A=25^\circ C$	3.2	

Marking



← Device Code
← Date Code

YMXX: Date Code Marking

Y: Year Code, the last digit of Christian year

M: Month Code

A: Jan	B: Feb	C: Mar	D: Apr	E: May	F: Jun
G: Jul	H: Aug	J: Sep	K: Oct	L: Nov	M: Dec

XX: Production Serial Number, 01~99

Ordering Information

Device	Package	Shipping
KWB060N10KR	DFNWB2×2-6L-J	

Absolute Maximum Ratings ($T_A=25^\circ C$)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current @ $V_{GS}=10V$, $T_C=25^\circ C$	I_D	8.5	A
Continuous Drain Current @ $V_{GS}=10V$, $T_C=100^\circ C$		5.4	
Continuous Drain Current @ $V_{GS}=10V$, $T_A=25^\circ C$		3.2	
Continuous Drain Current @ $V_{GS}=10V$, $T_A=70^\circ C$		2.5	
Pulsed Drain Current	I_{DM}	28	
Continuous Body Diode Forward Current @ $T_C=25^\circ C$	I_S	8.5	W
Pulsed Body Diode Forward Current @ $T_C=25^\circ C$	I_{SM}	28	
Total Power Dissipation	P_D	11.4	
		4.6	
		1.6	
		1	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	$-55 \sim +150$	$^\circ C$
Steady State Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	11	$^\circ C/W$
Steady State Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	79	

Electrical Characteristics (T_A=25°C, unless otherwise specified)

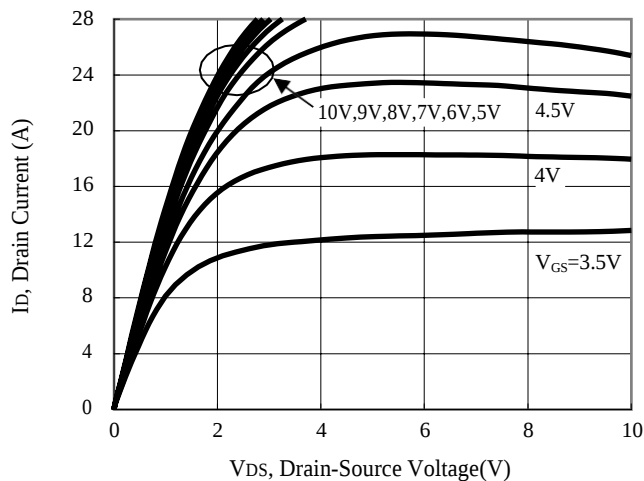
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static					
BV _{DSS}	100	-	-	V	V _{GS} =0V, I _D =250μA
V _{GS(th)}	1	-	2.5		V _{DS} =V _{GS} , I _D =250μA
G _{FS}	-	4	-	S	V _{DS} =10V, I _D =2A
I _{GSS}	-	-	±10	μA	V _{GS} =±16V, V _{DS} =0V
I _{DSS}	-	-	1		V _{DS} =80V, V _{GS} =0V
R _{DS(ON)}	-	62	81	mΩ	V _{GS} =10V, I _D =2A
	-	77	108		V _{GS} =4.5V, I _D =2A
Dynamic					
C _{iss}	-	317	-	pF	V _{DS} =50V, V _{GS} =0V, f=1MHz
C _{oss}	-	40	-		
C _{rss}	-	19	-		
R _g	-	6.6	-	Ω	f=1MHz
Q _g *d,e	-	3.7	-	nC	V _{DS} =50V, I _D =2A, V _{GS} =4.5V
Q _g *d,e	-	7.1	-		V _{DS} =50V, I _D =2A, V _{GS} =10V
Q _{gs} *d,e	-	1.1	-		
Q _{gd} *d,e	-	1.6	-		
t _{d(ON)} *d,e	-	5.2	-	ns	V _{DS} =50V, I _D =2A, V _{GS} =10V, R _{GS} =1Ω
tr *d,e	-	17	-		
t _{d(OFF)} *d,e	-	20	-		
t _f *d,e	-	7.3	-		
Source-Drain Diode					
V _{SD} *d	-	0.82	1.2	V	I _S =2A, V _{GS} =0V
t _{rr}	-	20	-	ns	I _F =2A, di/dt=100A/μs
Q _{rr}	-	12	-	μC	

Note:

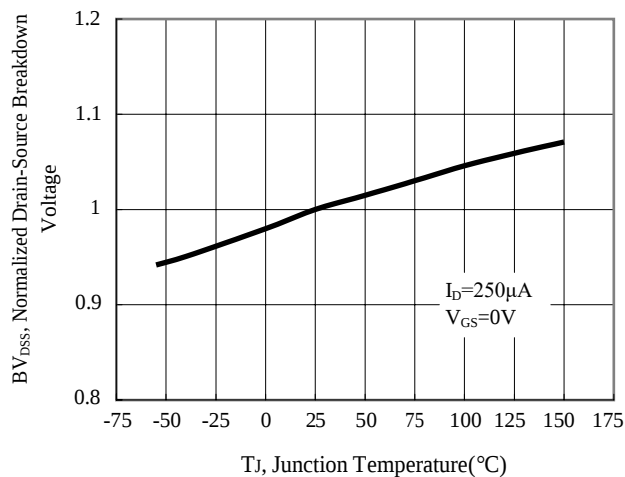
- *a. The power dissipation P_D is based on T_{J(MAX)}=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper Dissipation.
- *b. The value of R_{θJA} is measured with the device mounted on 1in² FR-4 board with 2oz copper, in a still air environment with T_A=25°C. The power dissipation P_D is based on R_{θJA} and the maximum allowed junction temperature of 150°C. The value in any given application depends on the user's specific board design.
- *c. Repetitive rating, pulse width limited by junction temperature T_{J(MAX)}=150°C. Ratings are based on low frequency and low duty cycles to keep initial T_J=25°C.
- *d. Pulse Test : Pulse Width≤300μs, Duty Cycle≤2%.
- *e. Independent of operating temperature.

Typical Characteristics

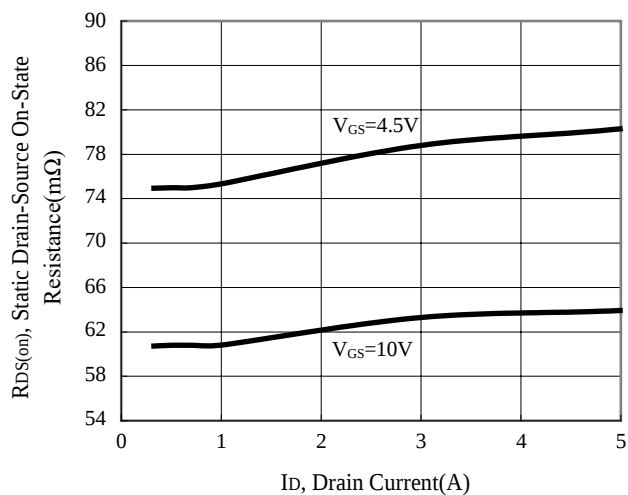
Typical Output Characteristics



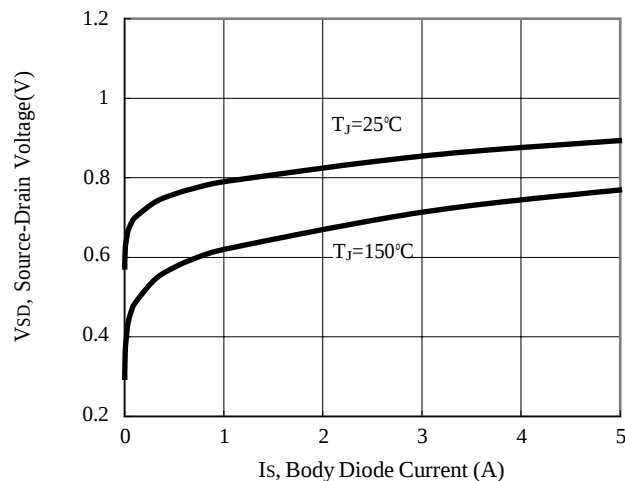
Breakdown Voltage vs Ambient Temperature



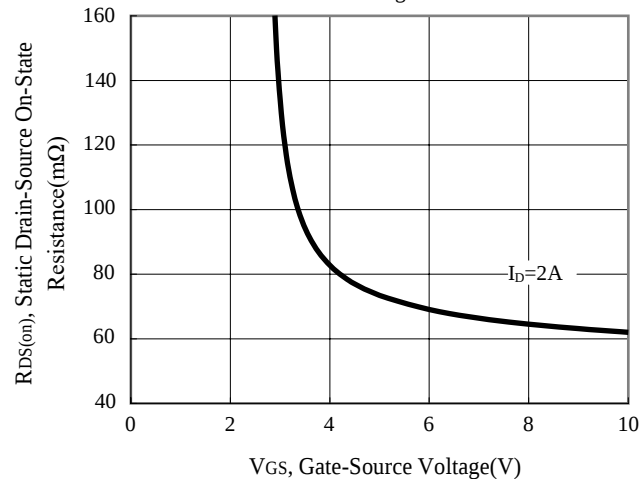
Static Drain-Source On-State resistance vs Drain Current



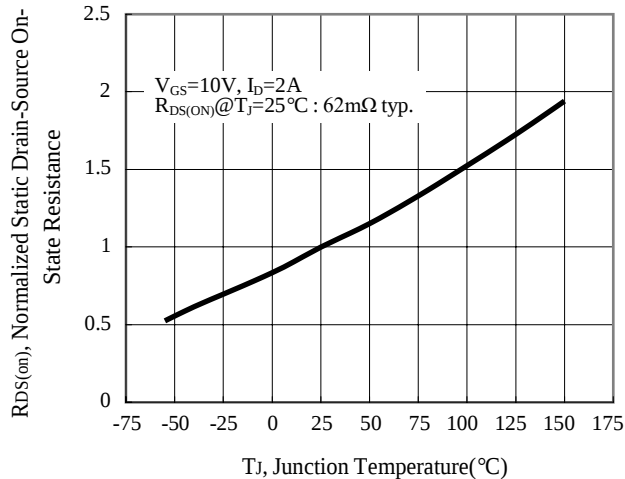
Body Diode Current vs Source-Drain Voltage



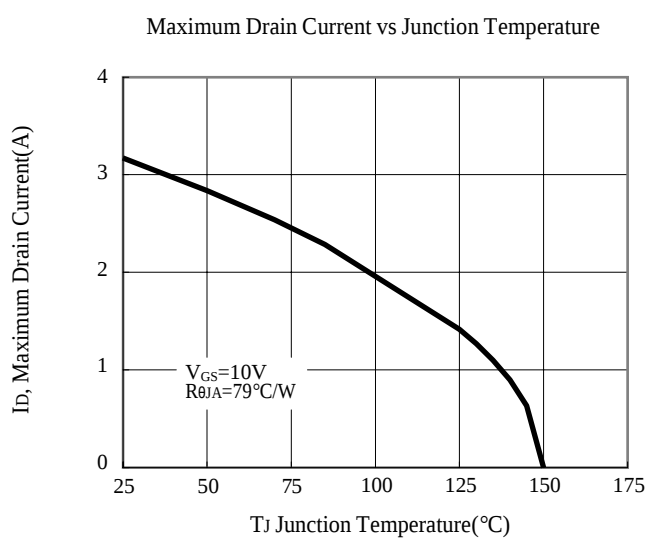
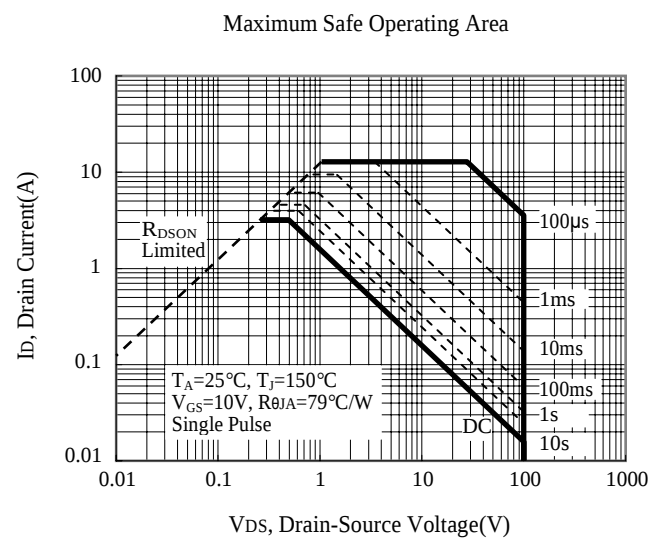
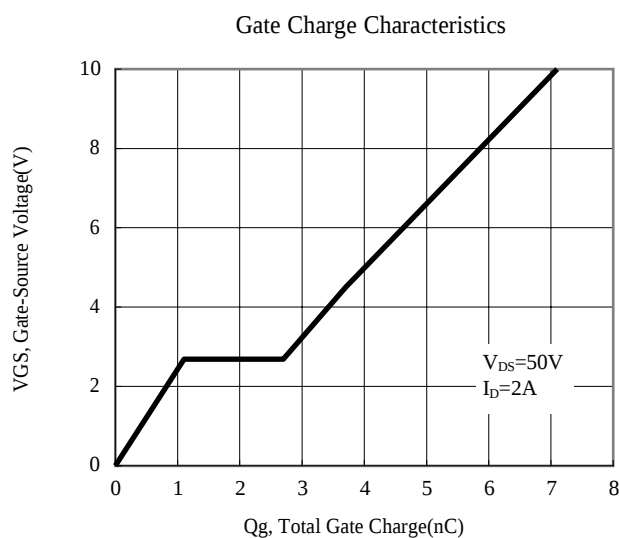
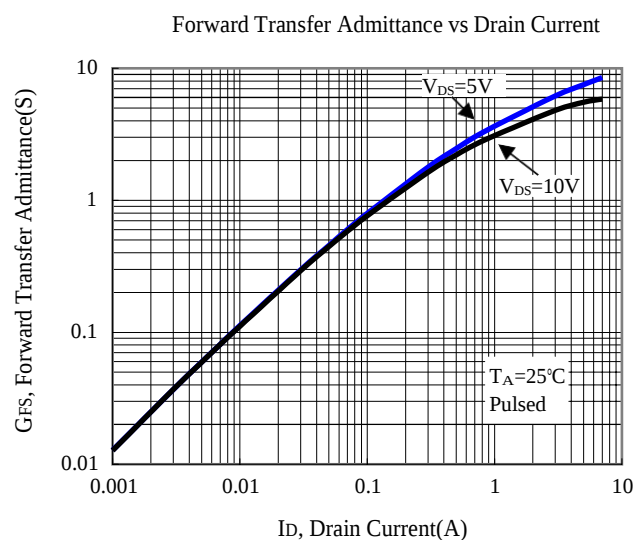
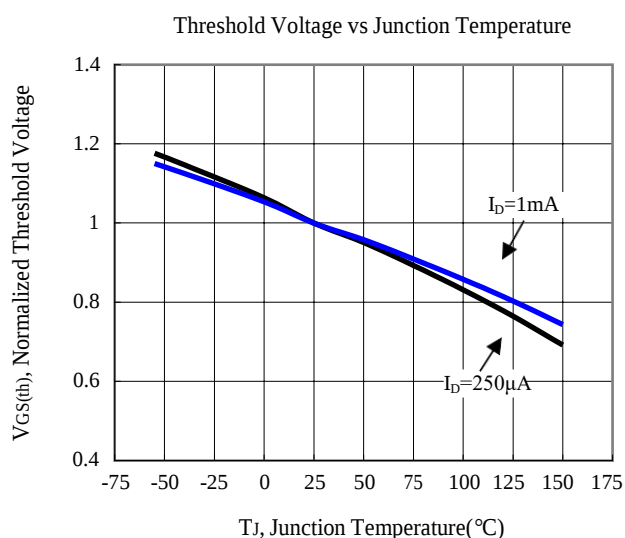
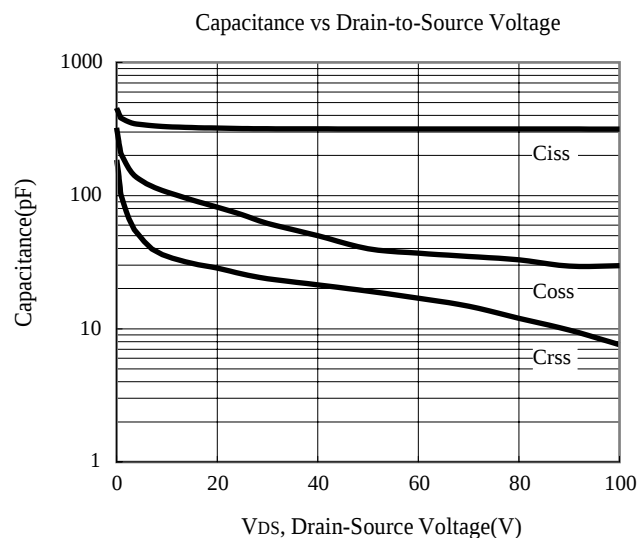
Static Drain-Source On-State Resistance vs Gate-Source Voltage



Drain-Source On-State Resistance vs Junction Temperature

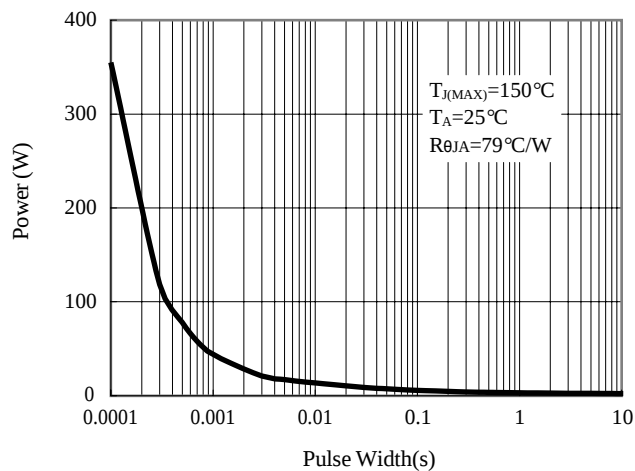


Typical Characteristics

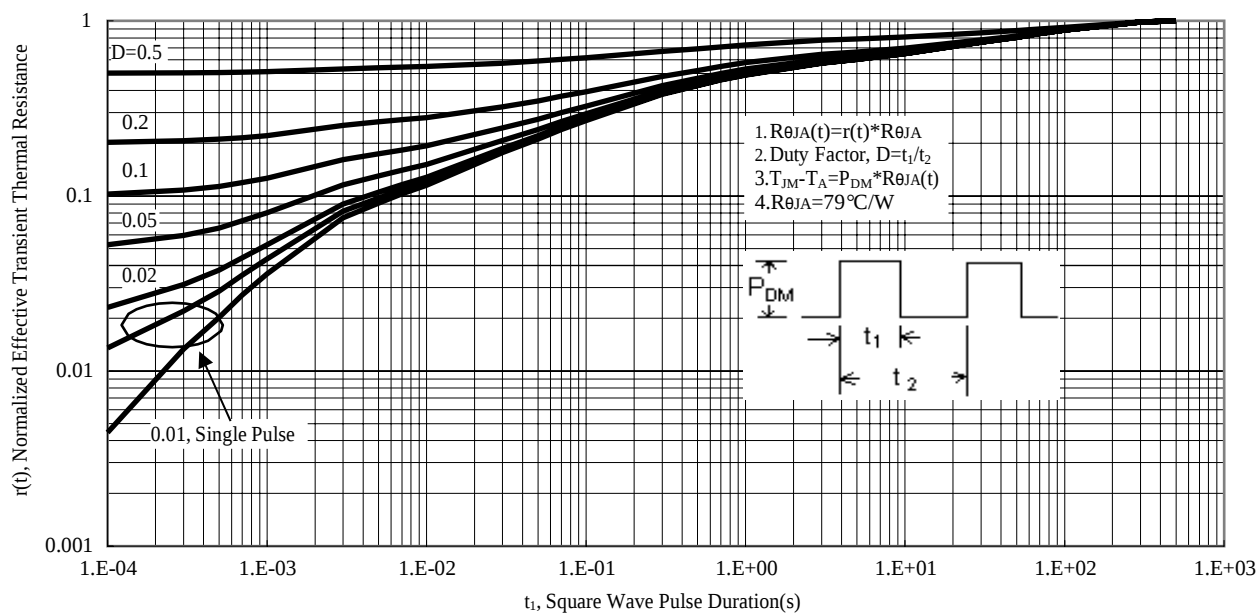


Typical Characteristics

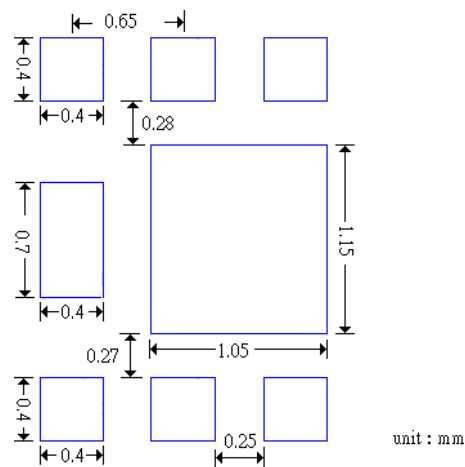
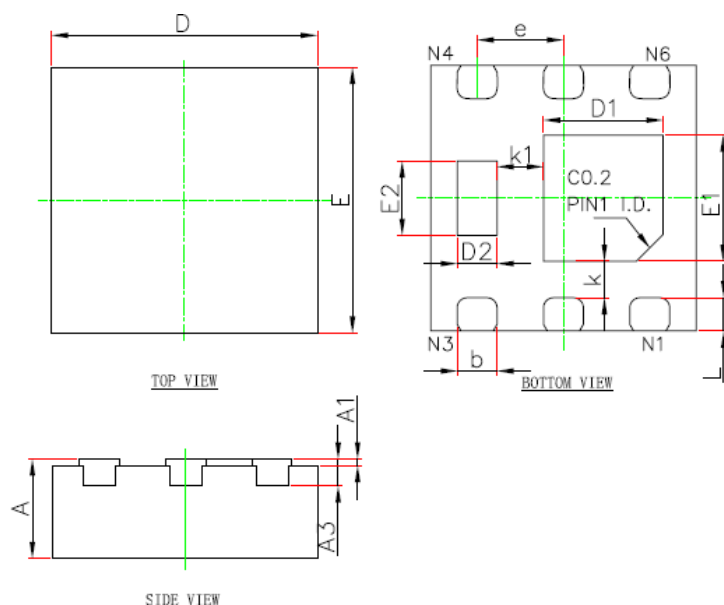
Single Pulse Power Rating, Junction to Ambient



Transient Thermal Response Curves



DFNWB2×2-6L-J Dimension



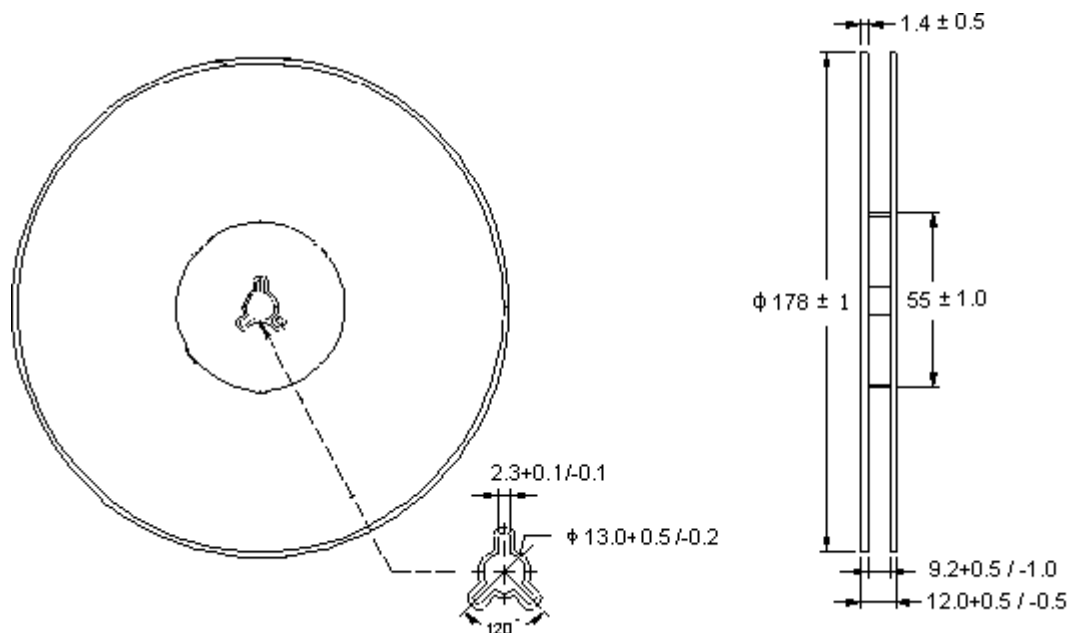
unit : mm

6-Lead DFNWB2×2-6L-J Plastic Surface Mounted Package

Recommended Soldering Footprint

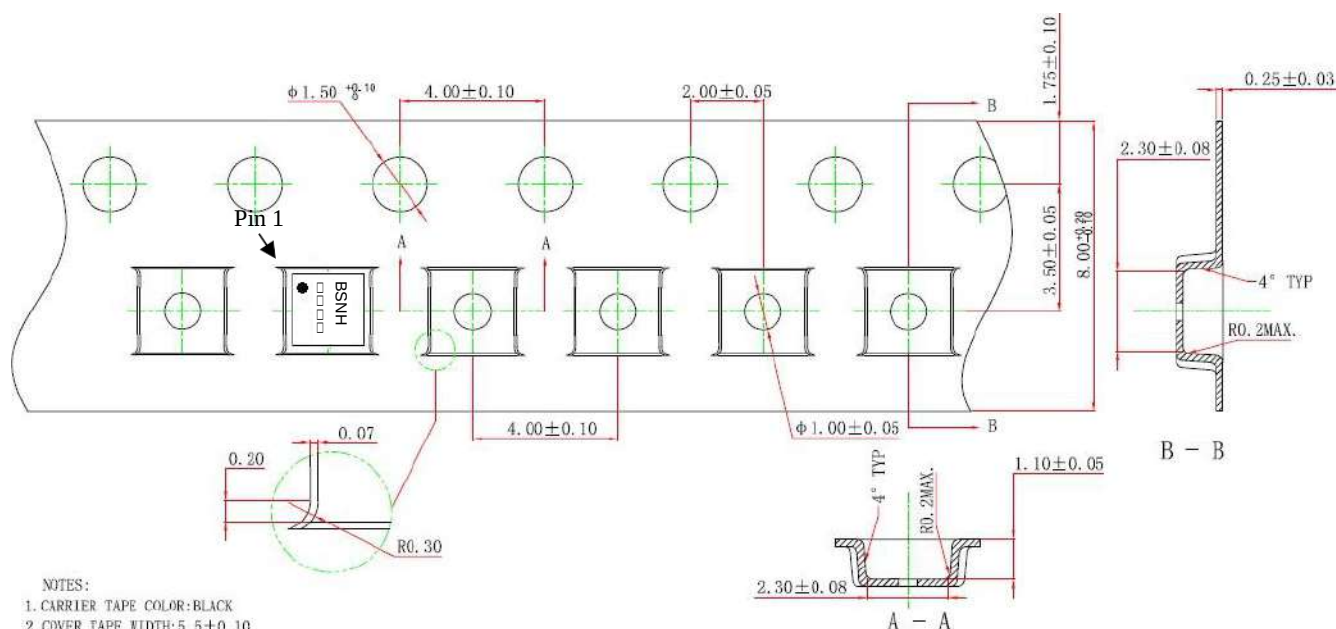
DIM	Millimeters		Inches		DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.031	D2	0.200	0.400	0.008	0.016
A1	0.000	0.050	0.000	0.002	E2	0.460	0.660	0.018	0.026
A3	0.203	REF	0.008	REF	b	0.250	0.350	0.010	0.014
D	1.900	2.100	0.075	0.083	e	0.650	BSC	0.026	BSC
E	1.900	2.100	0.075	0.083	k	0.275	REF	0.011	REF
D1	0.800	1.000	0.031	0.039	k1	0.350	REF	0.014	REF
E1	0.850	1.050	0.033	0.041	L	0.174	0.326	0.007	0.013

Reel Dimension



Unit: millimeter

Carrier Tape Dimension



NOTES:

1. CARRIER TAPE COLOR: BLACK
2. COVER TAPE WIDTH: 5.5 ± 0.10
3. COVER TAPE COLOR: TRANSPARENT
4. 10 SPROCKET HOLE PITCH CUMULATIVE TOLERANCE $\pm 0.10 \text{ MAX.}$
5. CAMBER NOT TO EXCEED 1 MM IN 100 MM
6. ALL DIMS IN mm.
7. THE DIRECTION OF VIEW: 