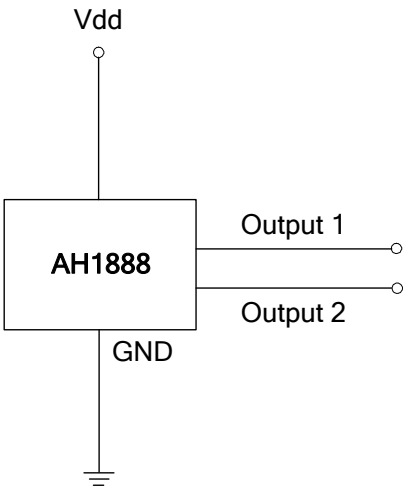
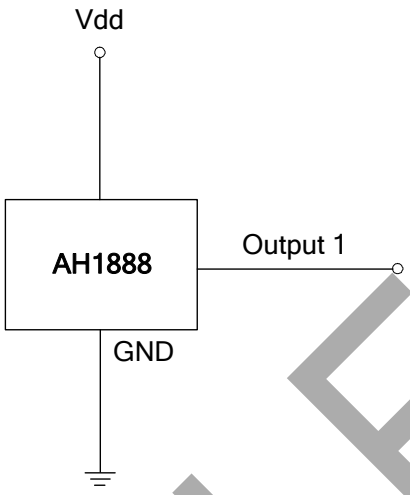
Typical Application Circuit

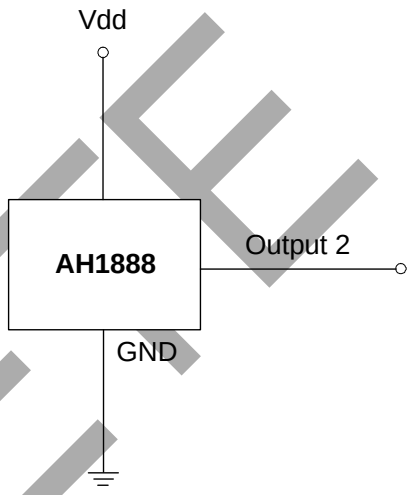
(1) SOT553



(2) U-DFN2020-3



(3) U-DFN2020R-3

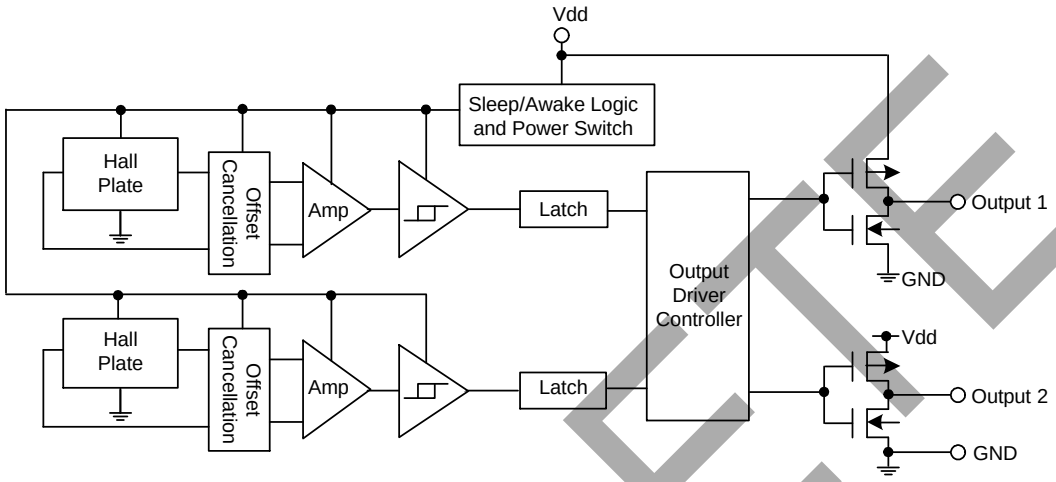


Pin Descriptions

Pin Name	P/I/O	Description
Vdd	P/I	Power Supply Voltage
GND	P/I	Ground
Output 1	O	Output Pin (Active Low)
Output 2	O	Output Pin (Active High)

Functional Block Diagram

(1) SOT553



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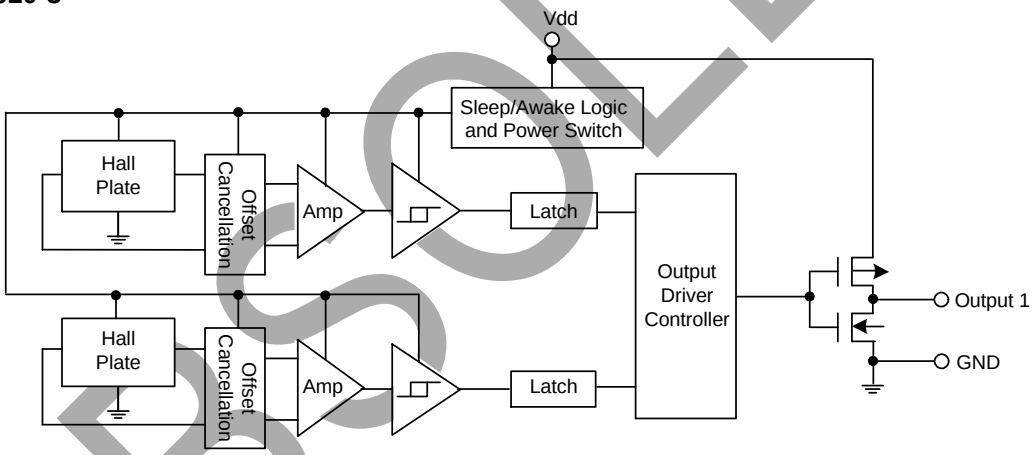
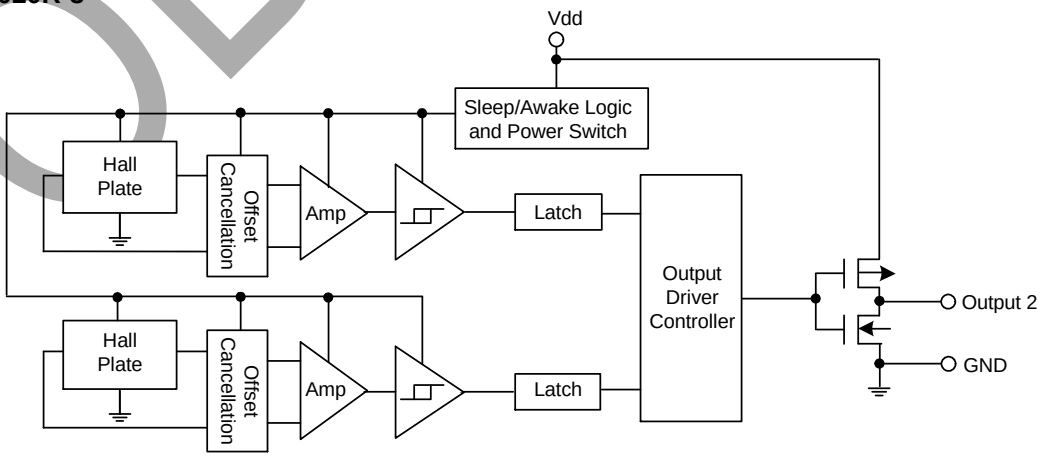


(3) U-DFN2020R-3



Absolute Maximum Ratings (T_A = 25°C)

Symbol	Characteristics	Values	Unit
Vdd	Supply voltage	5	V
B	Magnetic flux density	Unlimited	
T_S	Storage Temperature Range	-65 to +150	°C
P_D	Package Power Dissipation	230	mW
T_J	Maximum Junction Temperature	150	°C

Recommended Operating Conditions (T_A = 25°C)

Symbol	Characteristic	Conditions	Rating	Unit
Vdd	Supply Voltage	Operating	1.65 to 3.3	V
T_A	Operating Temperature Range	Operating	-40 to +85	°C

Electrical Characteristics (T_A = 25°C, Vdd = 1.8V, unless otherwise specified)

Symbol	Characteristic	Conditions	Min	Typ.	Max	Unit
V_{OH}	Output On Voltage (High side)	I_O = -0.5mA	Vdd - 0.2	-	-	V
V_{OL}	Output On Voltage (Low side)	I_O = 0.5mA	-	-	0.2	V
Idd(en)	Supply Current	Chip enable	-	2	4	mA
Idd(dis)		Chip disable	-	5	8	µA
Idd(avg)		Average supply current	-	7	12	µA
Tawake	Awake Time	(Note 1)	-	50	100	µs
Tperiod	Period	(Note 1)	-	50	100	ms
D.C.	Duty Cycle		-	0.1	-	%

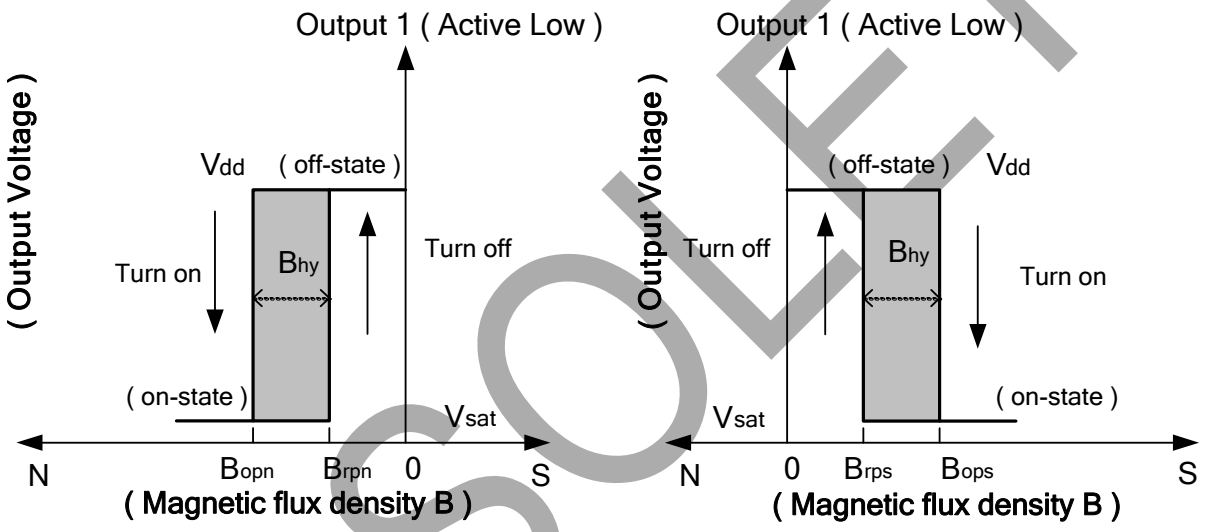
Notes: 1. When power is initially turned on, Vdd must be within its correct operating range (1.65V to 3.3V) to guarantee the output sampling. The output state is valid after the second operating cycle (typical 100ms).

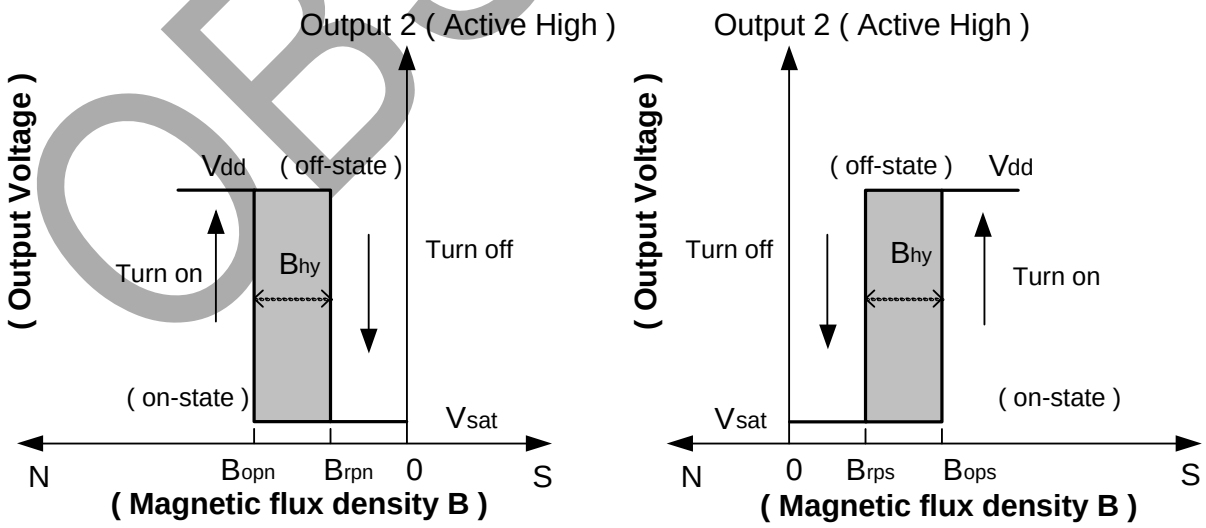
Magnetic Characteristics (T_A = 25°C, Vdd = 1.8V ~ 3.0V, Note 2 & 3)

(1mT=10 Gauss)

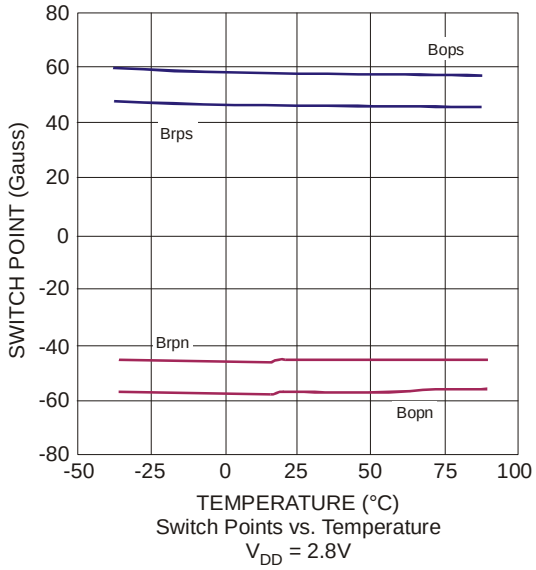
Symbol	Characteristic	Min	Typ.	Max	Unit
Bops(south pole to brand side)	Operate Point	-	61	79	Gauss
Bopn(north pole to brand side)		-79	-61	-	
Brps(south pole to brand side)	Release Point	35	53	-	
Brpn(north pole to brand side)		-	-53	-35	
Bhy(|Bopx| – |Brpx|)	Hysteresis	3	8	-	

Notes: 2. Typical data is at Vdd = 3V.
3. The magnetic characteristics may vary with supply voltage, operating temperature and after soldering.

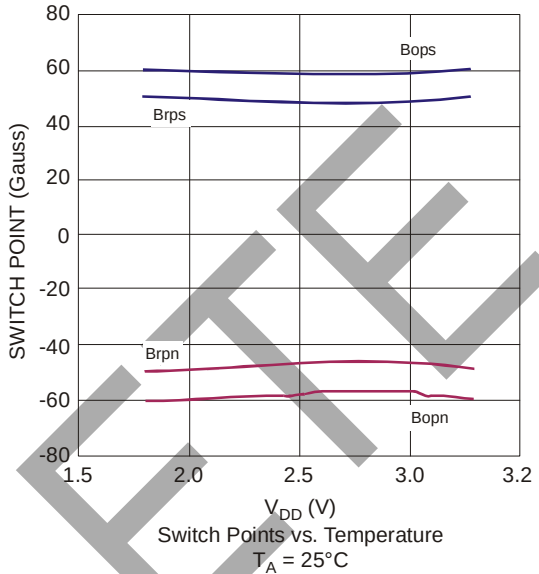




Typical Characteristics



Switch Points vs. Temperature
V_{DD} = 2.8V

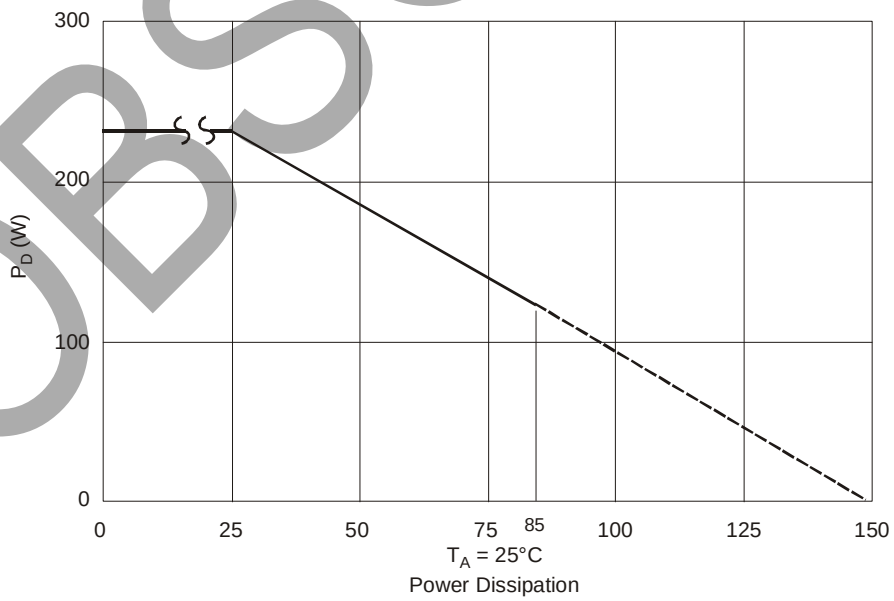


Switch Points vs. Temperature
T_A = 25°C

Performance Characteristics

For SOT553, U-DFN2020-3 and U-DFN3030R-3

T_A (°C)	25	50	60	70	80	85	90	100	110	120	130	140	150
P_D (mW)	230	184	166	147	129	120	110	92	74	55	37	18	0



Ordering Information

AH 1888 - XXX G - 7

Package	Green	Packing
Z : SOT553 FJ : U-DFN2020-3 FJR : U-DFN2020R-3	G : Green	7 : Tape & Reel

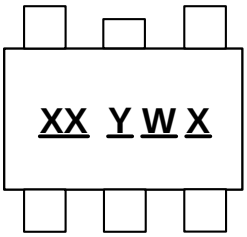
Device	Package Code	Packaging (Note 4 & 5)	7" Tape and Reel	
			Quantity	Part Number Suffix
AH1888-ZG-7	Z	SOT553	3000/Tape & Reel	-7
AH1888-FJG-7	FJ	U-DFN2020-3	3000/Tape & Reel	-7
AH1888-FJRG-7	FJR	U-DFN2020R-3	3000/Tape & Reel	-7

Notes: 4. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. No purposely added lead. Halogen and Antimony free. Please visit our website at http://www.diodes.com/products/lead_free.html.
5. Pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.

Marking Information

(1) SOT553

(Top View)

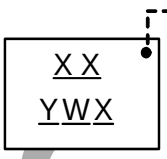


XX : Identification Code
Y : Year : 0~9
W : Week : A~Z : 1~26 week;
a~z : 27~52 week;
z represents 52 and 53 week
X : A~Z : Green

Part Number	Package	Identification Code
AH1888	SOT553	KV

(2) U-DFN2020-3 and U-DFN2020R-3

(Top View)

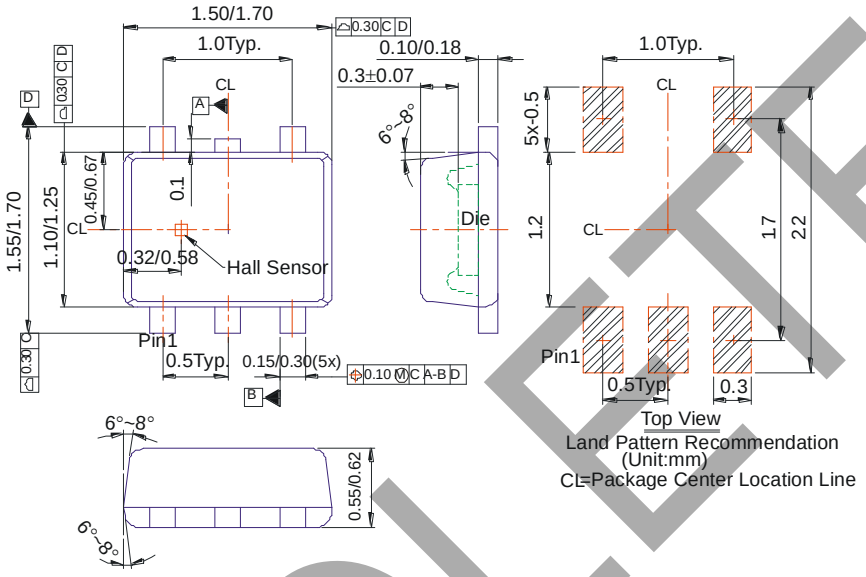


Pin 1 indicator
XX : Identification Code
Y : Year : 0~9
W : Week : A~Z : 1~26 week;
a~z : 27~52 week;
z represents 52 and 53 week
X : A~Z : Green

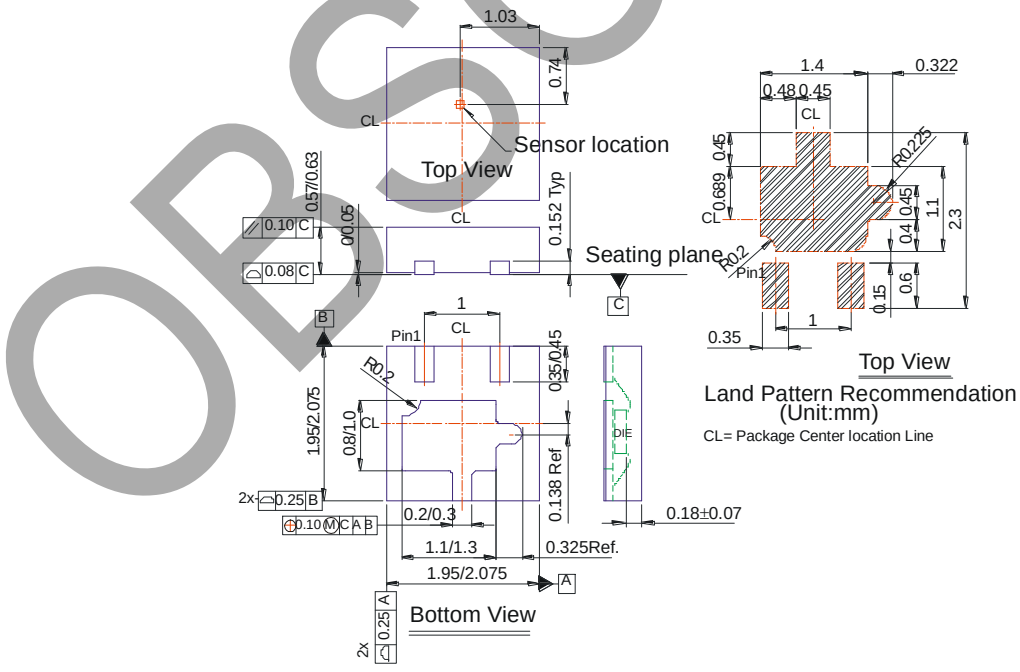
Part Number	Package	Identification Code
AH1888	U-DFN2020-3	KV
AH1888	U-DFN2020R-3	KW

Package Outline Dimensions (All Dimensions in mm)

(1) Package Type: SOT553

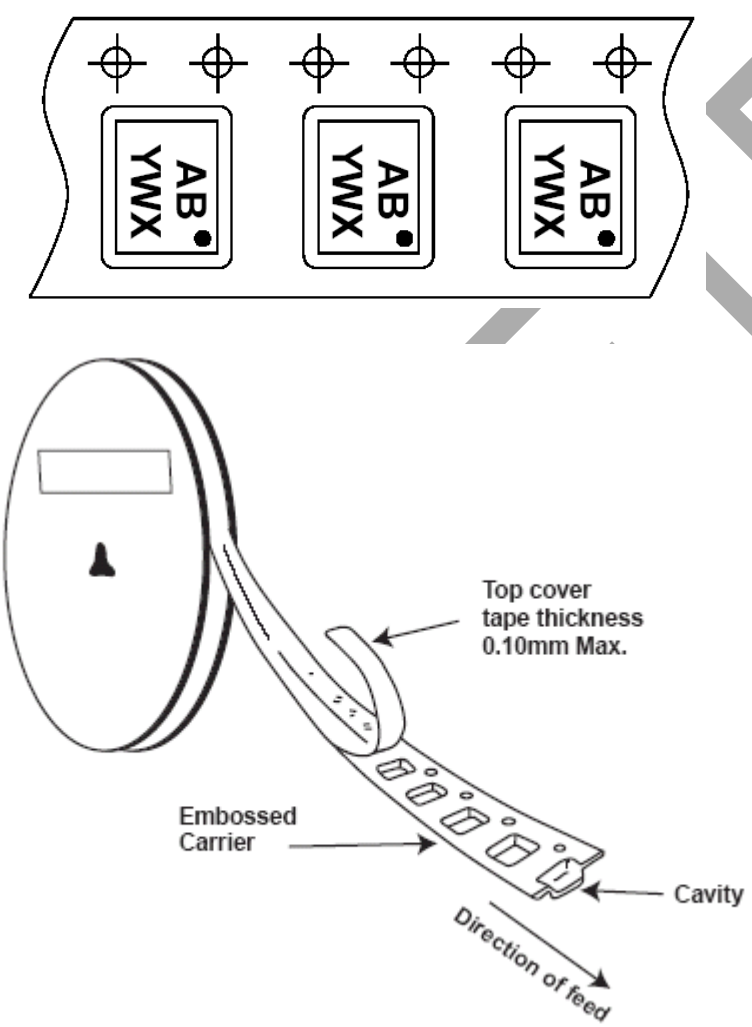


(2) Package Type: U-DFN2020-3 and U-DFN2020R-3



Taping Orientation (Note 6)

For U-DFN2020-3 and U-DFN2020R-3



Notes: 6. The taping orientation of the other package type can be found on our website at http://www.diodes.com/datasheets/ap02007.pdf.

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