A Product Line of Diodes Incorporated

LITE-ON SEMICONDUCTOR

G15H150D5

TRENCH SCHOTTKY RECTIFIER

REVERSE VOLTAGE – 150 Volts
FORWARD CURRENT – 15 Amperes

FEATURES

- Super Low Forward Voltage Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- 150℃ Operation Junction Temperature
- Qualified according to AEC-Q101 Rev_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

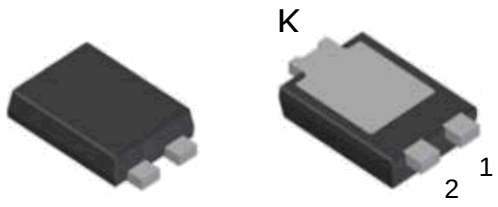
APPLICATION

- Device optimized for ultra-low forward voltage drop to maximize efficiency in Power Supply application

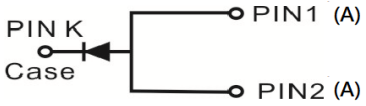
MECHANICAL DATA

- Package: PowerDI5
- Package Material: "Green" molding compound, UL flammability classification 94V-0,"Halogen-free".
- Moisture Sensitivity Level 1 per J-STD-020
- Lead free finish, RoHS compliant
- Weight: 0.1 grams (Approximate)
- Marking code: G15H150

PowerDI5



Top View Bottom View



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER		SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	150	V
Maximum DC blocking voltage		V_{DC}	150	V
Maximum Average rectified output current	@T_C=125°C	$I_{(AV)}$	15	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.		I_{FSM}	150	A
Peak Repetitive Reverse Surge Current	@tp=2us	I_{RRM}	3	A
Operating junction and Storage Temperature range		T_J, T_{STG}	-55 ~ +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS		SYMBOL	MIN	TYP	MAX	UNIT
Forward voltage (Note 4)	I_F=15A	T_J=25°C T_J=125°C	V_F	-- --	0.84 0.68	0.86 0.75	V
Reverse Current	V_R=150V	T_J=25°C T_J=125°C	I_R	-- --	-- 0.71	20 10	uA mA
Breakdown voltage	I_R=100uA	T_J=25°C	V_B	150	--	--	V

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical junction capacitance (Note 5)	C_J	905	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Notes 6, 7)	$RthJ_C$ $RthJ_L$	2 3	°C/W

Note:

REV-4 ,Nov-2021,KSHB50

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. 300us pulse width, 2% duty cycle.
5. Measured at 1.0MHz and applied voltage of 4.0V DC.
6. Thermal resistance test performed in accordance with JESD-51.
7. The unit mounted on Copper heatsink 60mm x 60mm x 1.7mm.

RATING AND CHARACTERISTIC CURVES
G15H150D5

FIG.1 FORWARD CURRENT DERATING CURVE

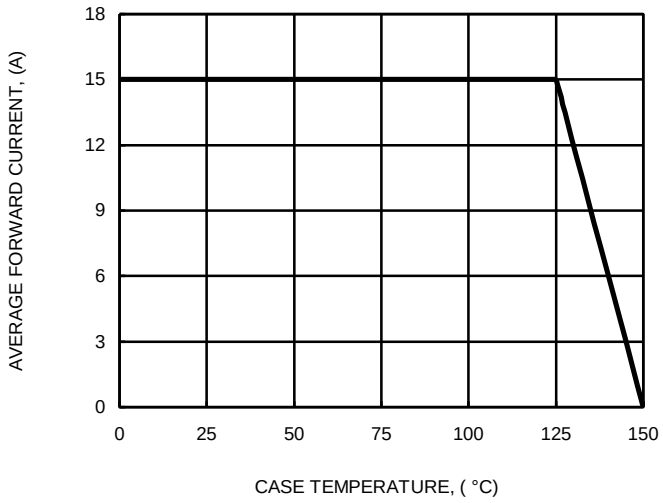


FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

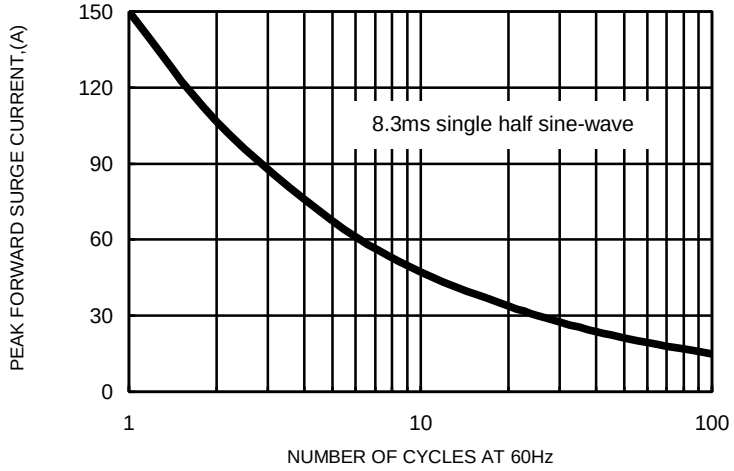


FIG.3 TYPICAL FORWARD CHARACTERISTICS

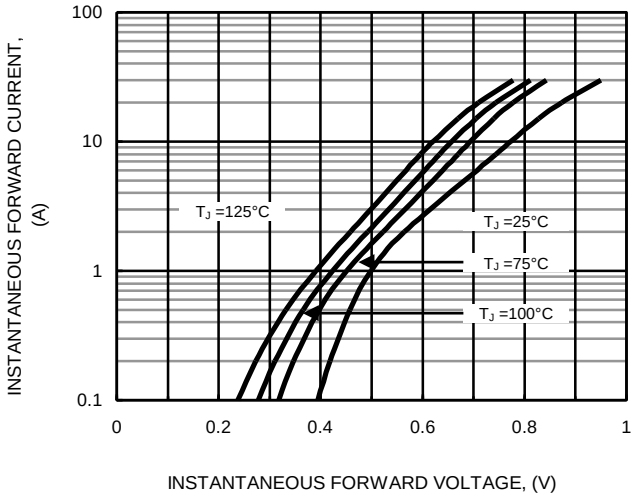


FIG.4 TYPICAL JUNCTION CAPACITANCE

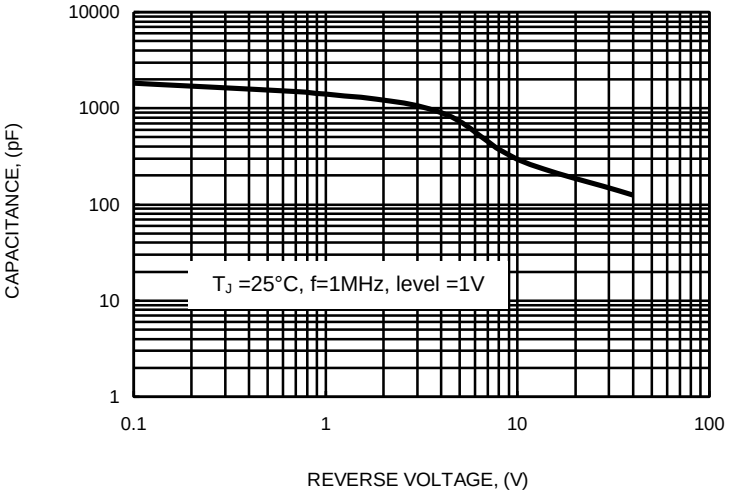


FIG.5 TYPICAL REVERSE CHARACTERISTICS

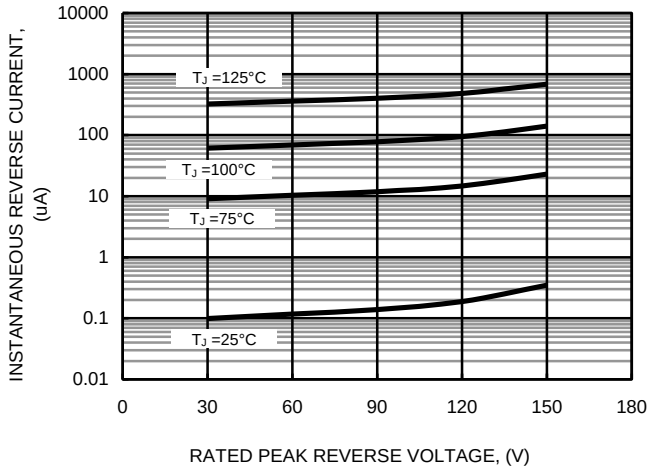
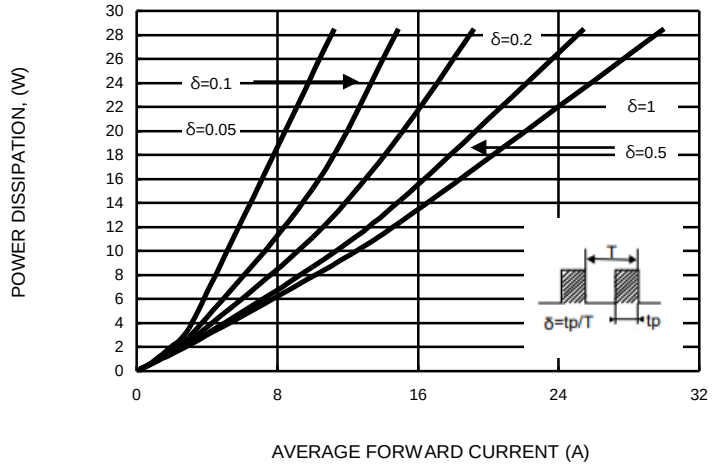


FIG.6- AVERAGE FORWARD POWER DISSIPATION VS AVERAGE FORWARD CURRENT



RATING AND CHARACTERISTIC CURVES
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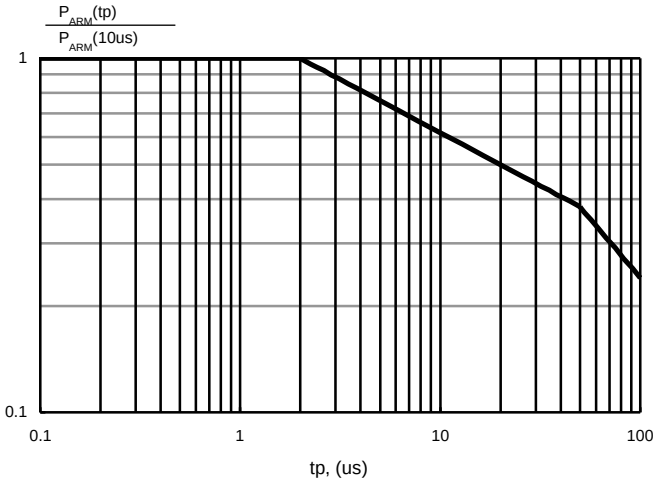
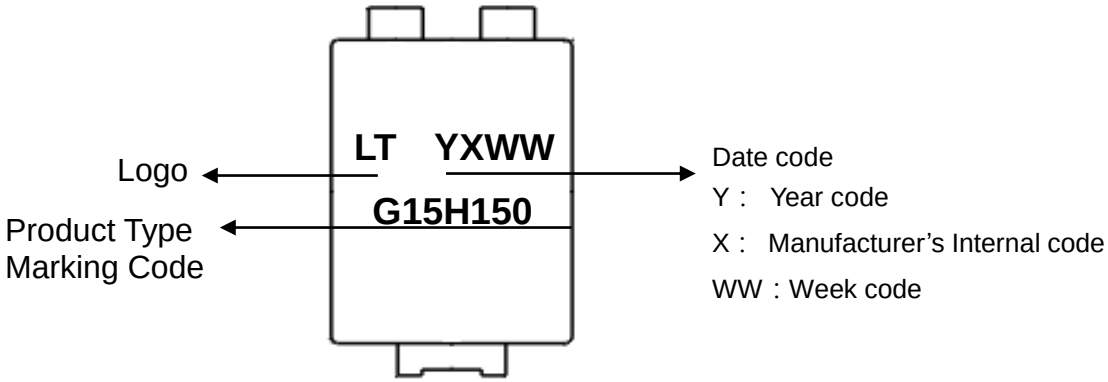
FIG.7- NORMALIZED AVALANCHE POWER DERATING VERSUS PULSE DURATION



Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
G15H150D5	PowerDI5	5000	Tape & Reel

Marking information:



PACKAGE AND PACKING INFORMATION
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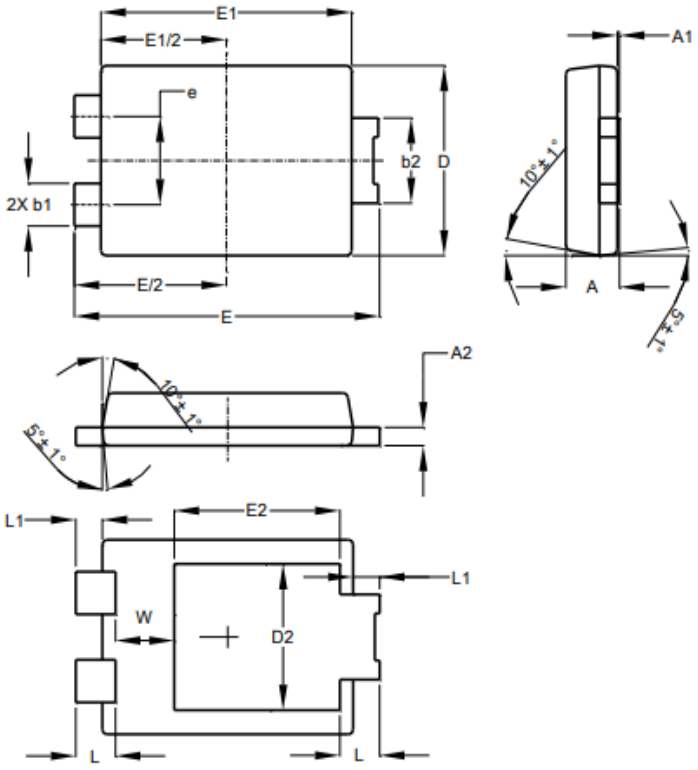
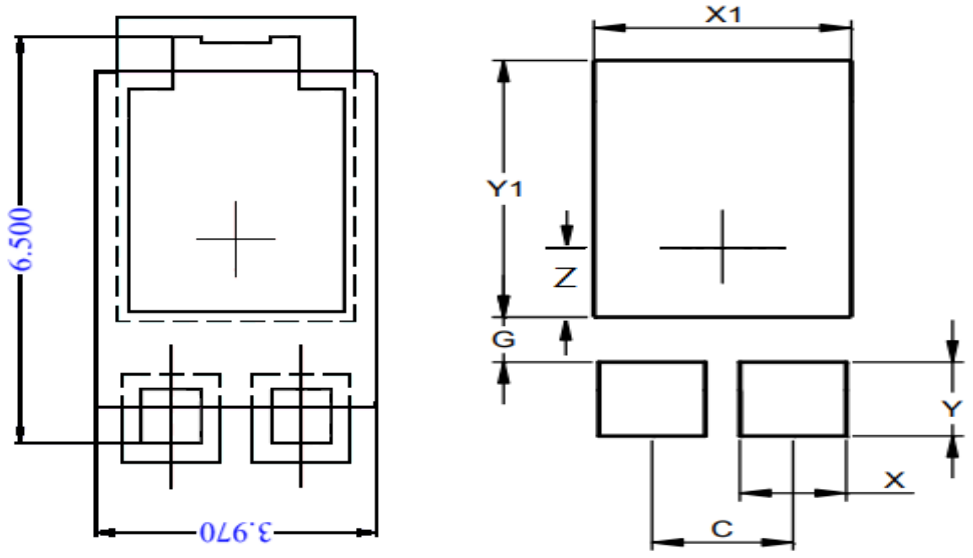
Suggested Package:



PowerDI5			
DIM.	MIN.	MAX	TYP
A	1.05	1.15	1.10
A1	0	0.05	--
A2	0.33	0.43	0.381
b1	0.80	0.99	0.89
b2	1.70	1.88	1.78
D	3.90	4.05	3.966
D2	--	--	3.05
E	6.40	6.60	6.51
e	1.84 NOM		
E1	5.30	5.45	5.37
E2	--	--	3.549
L	0.75	0.95	0.85
L1	0.50	0.65	0.57
W	1.10	1.41	1.255
All dimension in millimeter			

Soldering Pad Layout :



Dimensions	Value (mm)
C	1.840
G	0.852
X	1.390
X1	3.360
Y	1.400
Z	1.310
Y1	4.860

PACKAGE AND PACKING INFORMATION
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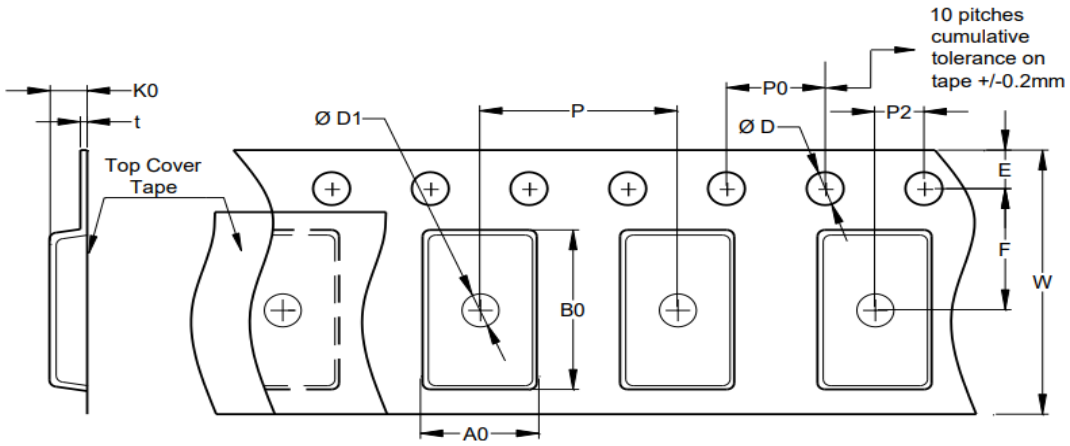
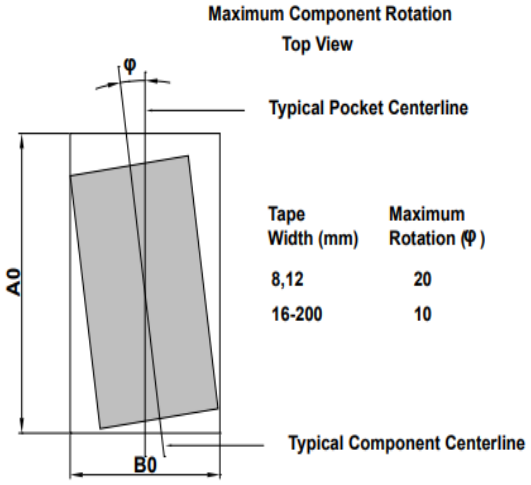
Embossed Carrier Dimensions

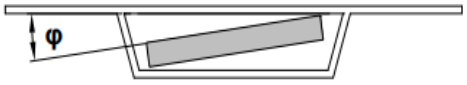


EMBOSSED TYPE **Unit:mm**

TYPE SIZE	A0	B0	D	D1	E	F
16mm	4.225±0.106	6.845±0.115	1.55±0.05	1.50±0.25	1.75±0.10	7.50±0.10
	K0	P	P0	P2	t	--
	1.290±0.120	8.00±0.10	4.00±0.10	2.00±0.05	0.290±0.060	--



Tape Width (mm)	Maximum Rotation (φ)
8,12	20
16-200	10



Tape Width (mm)	Maximum Rotation (φ)
8,12	20
16-56	10
72-200	5

PACKAGE AND PACKING INFORMATION
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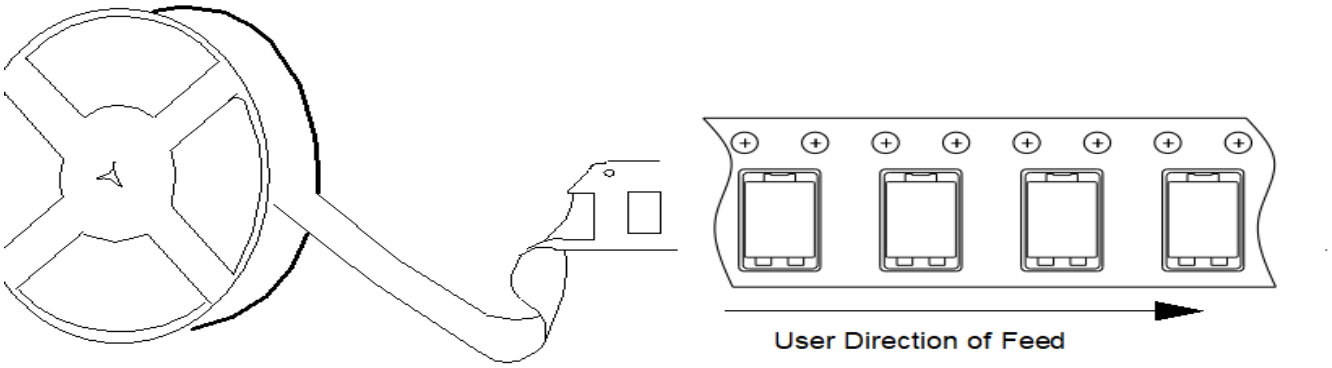
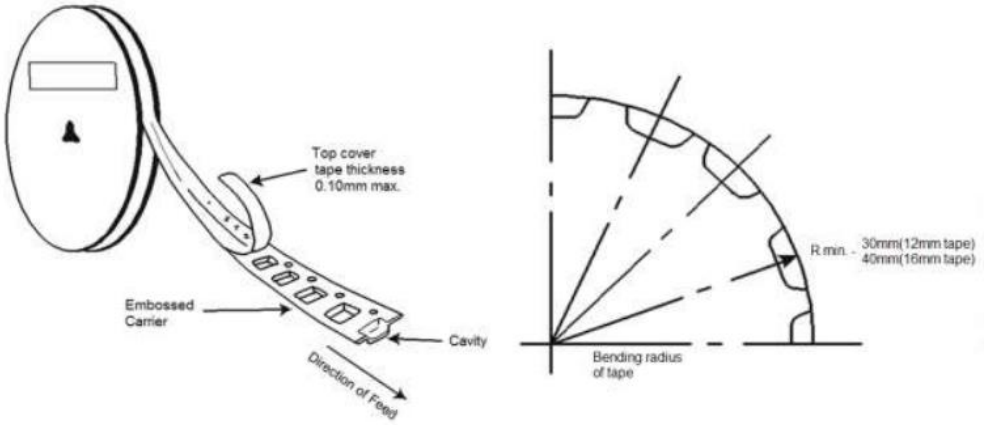
Polar Units





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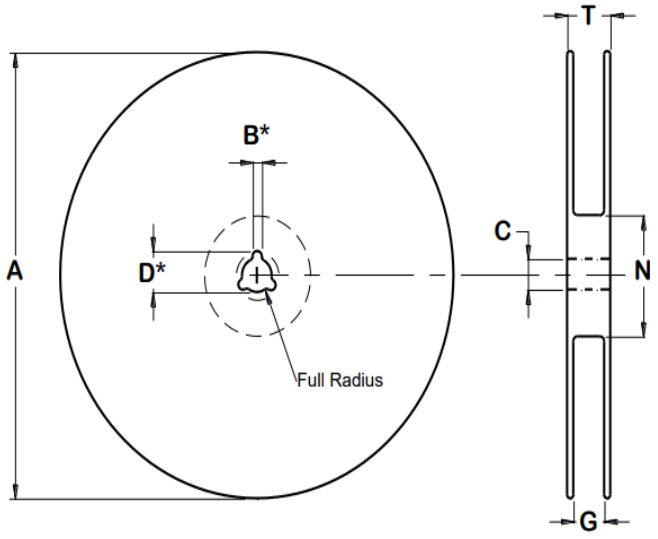

REEL DIMENSIONS **Unit:mm**

TAPE SIZE	Reel Size	A	B MAX	C	D MAX	N MIN	G	T MAX
16mm	13”	330±2	2.0+0.5/-0	13+0.5/-0.2	20.5±0.2	100±2	16.4+2.0/-0	22.4

PACKING

Reel SIZE	Q’TY/REEL (PCS)	BOX SIZE (mm)	Q’TY/BOX (PCS)	CARTON SIZE (mm)	Q’TY/CARTON (PCS)
13”	5K	--	--	335X335X310	60K

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