

**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°C 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)**

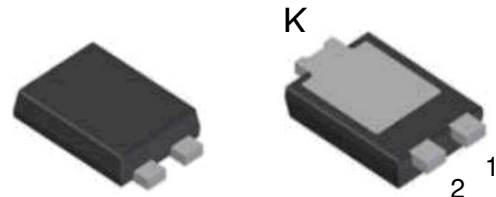
**APPLICATION**

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

**MECHANICAL DATA**

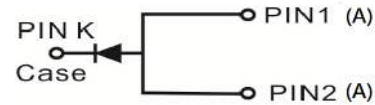
- Package: PowerDI5
- Package Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".
- Moisture Sensitivity Level 1 per J-STD-020
- Lead free finish, RoHS compliant
- Weight: 0.1 grams (Approximate)
- Marking code: G15H150

**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	$I_{(AV)}$	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	$I_{RRM}$	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)	$I_F=15A$	$V_F$	--	0.84	0.86	V
	$T_J=125^\circ C$		--	0.68	0.75	
Reverse Current	$V_R=150V$	$I_R$	--	--	20	uA
			$T_J=125^\circ C$	--	0.71	
Breakdown voltage	$I_R=100uA$	$V_B$	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)	$R_{thJC}$	2	°C/W
	$R_{thJL}$	3	

**Note:**

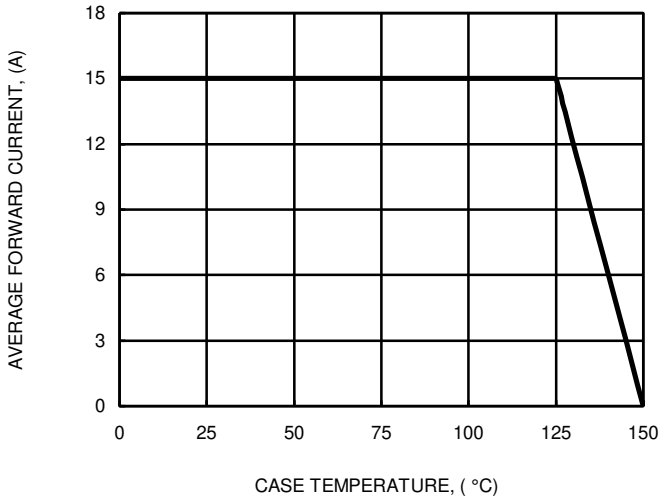
REV-4 ,Nov-2021 ,KSHB50

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.

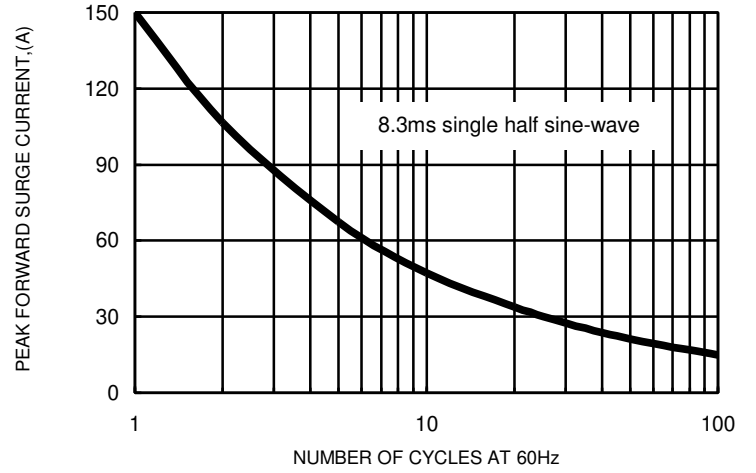
**RATING AND CHARACTERISTIC CURVES**

**G15H150D5**

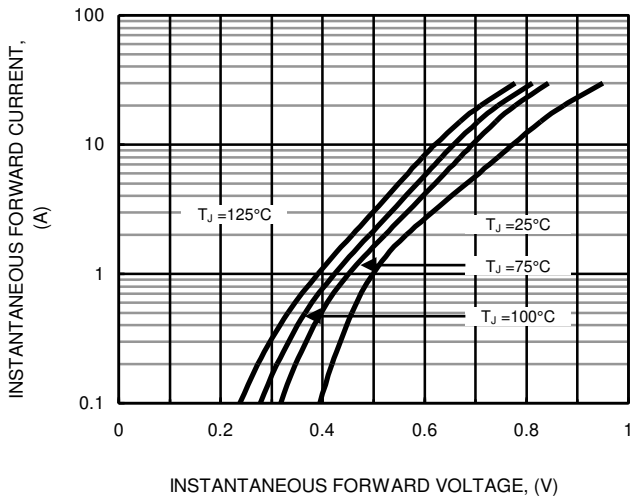
**FIG.1 FORWARD CURRENT DERATING CURVE**



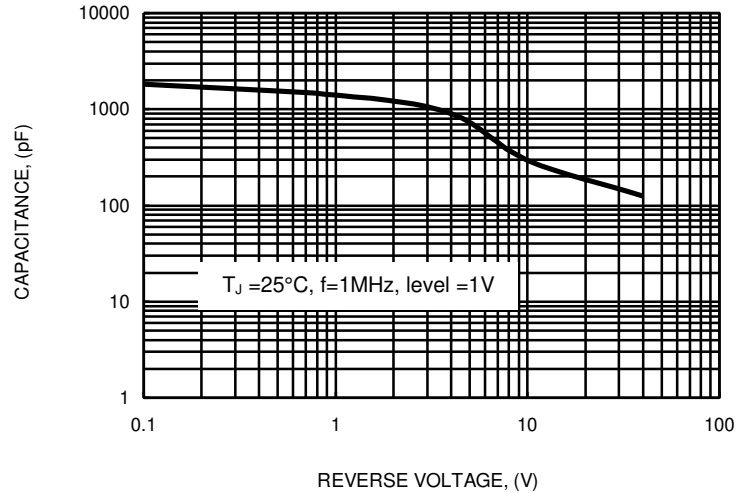
**FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT**



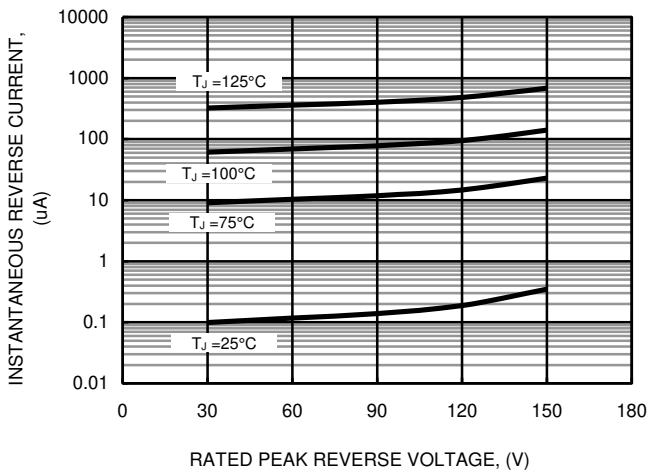
**FIG.3 TYPICAL FORWARD CHARACTERISTICS**



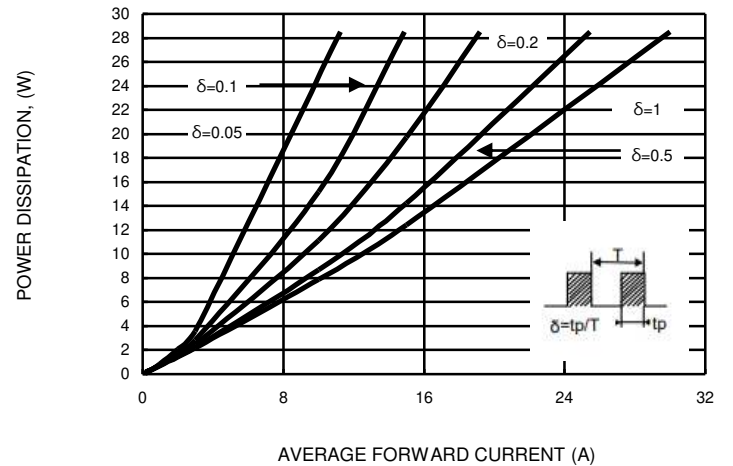
**FIG.4 TYPICAL JUNCTION CAPACITANCE**



**FIG.5 TYPICAL REVERSE CHARACTERISTICS**

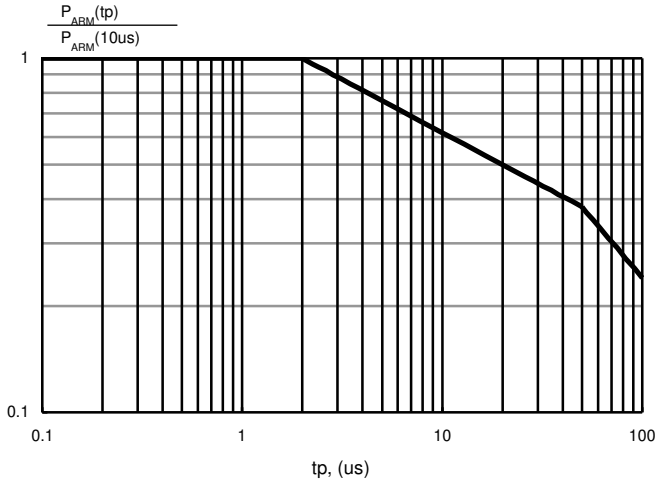


**FIG.6- AVERAGE FORWARD POWER DISSIPATION VS AVERAGE FORWARD CURRENT**



**RATING AND CHARACTERISTIC CURVES**  
**G15H150D5**

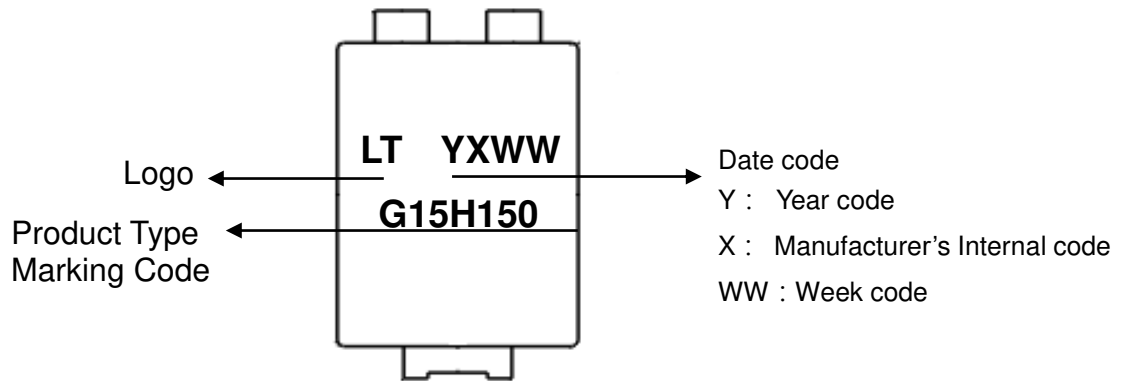
**FIG.7- NORMALIZED AVALANCHE POWER  
DERATING VERSUS PULSE DURATION**



**Ordering Information :**

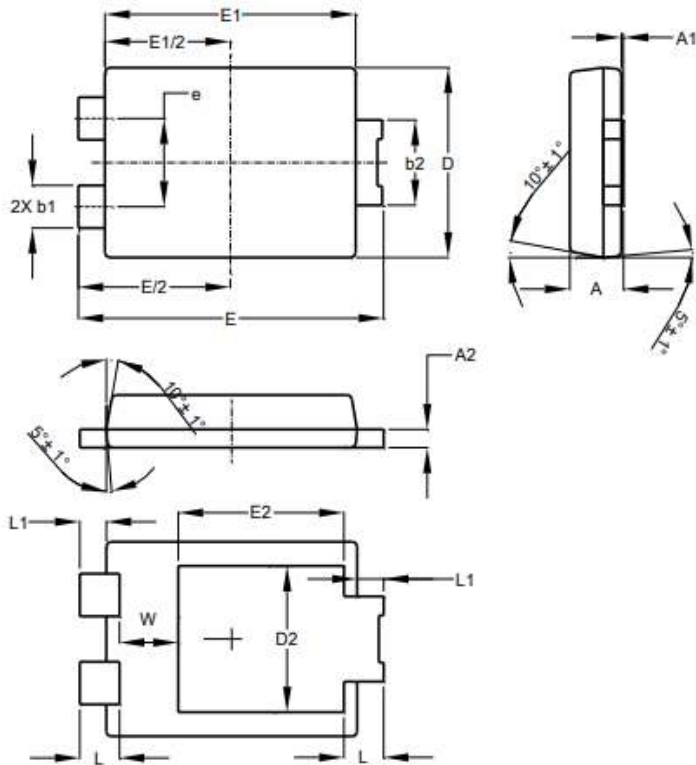
Part Number	Package	Packing	
		Qty.	Carrier
G15H150D5	PowerDI5	5000	Tape & Reel

**Marking information:**



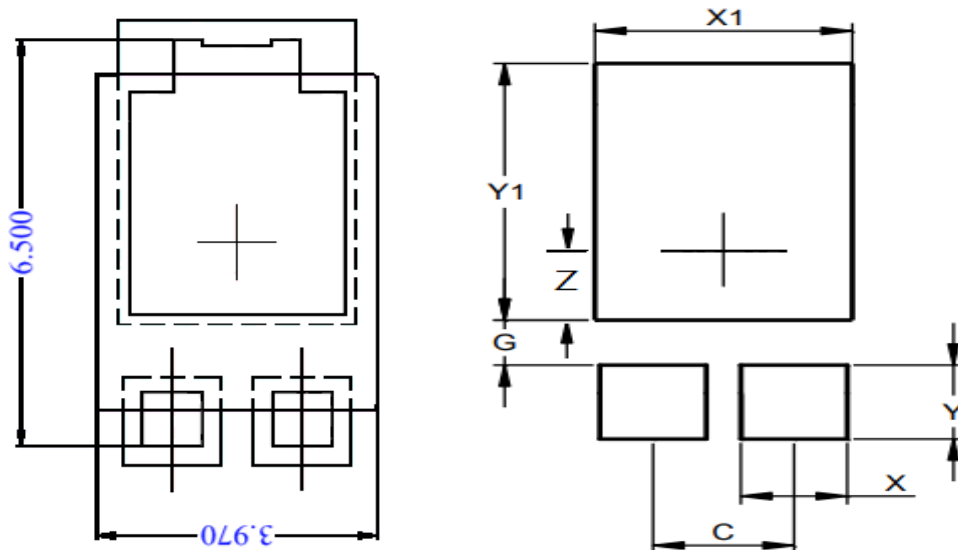
**PACKAGE AND PACKING INFORMATION**  
**G15H150D5**

**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			

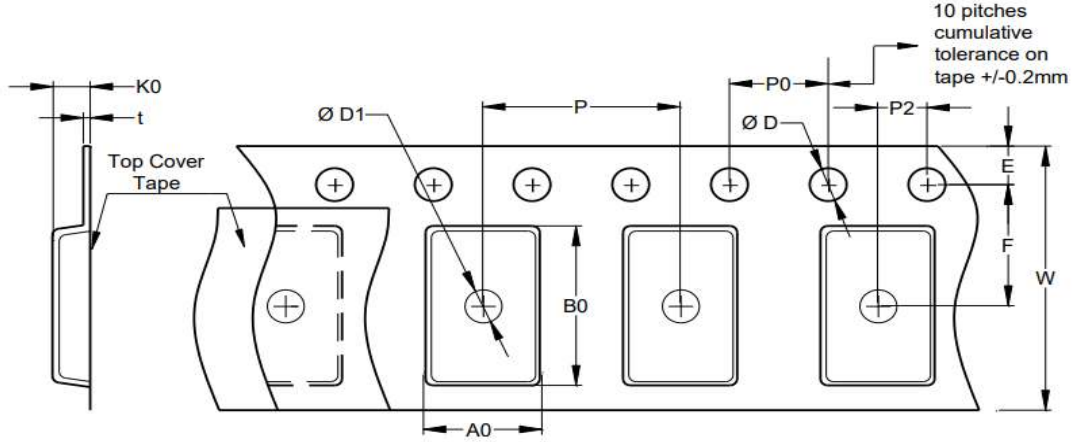
**Soldering Pad Layout :**



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**  
**G15H150D5**

**Embossed Carrier Dimensions**

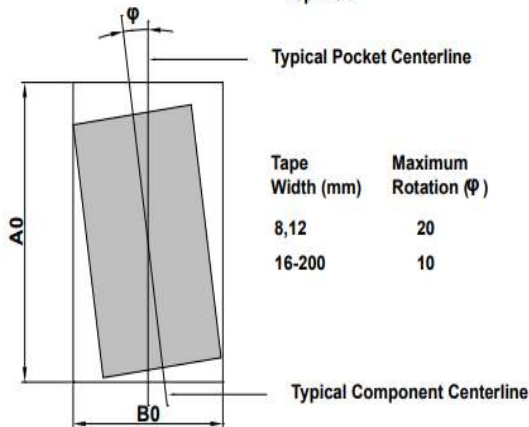


**EMBOSSED TYPE**

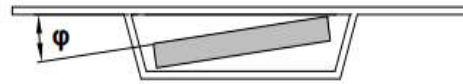
**Unit:mm**

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	--

**Maximum Component Rotation**  
**Top View**



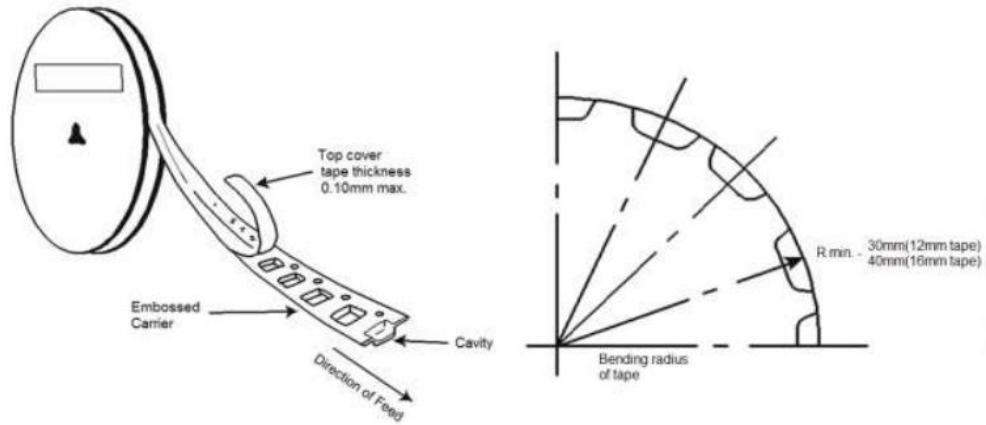
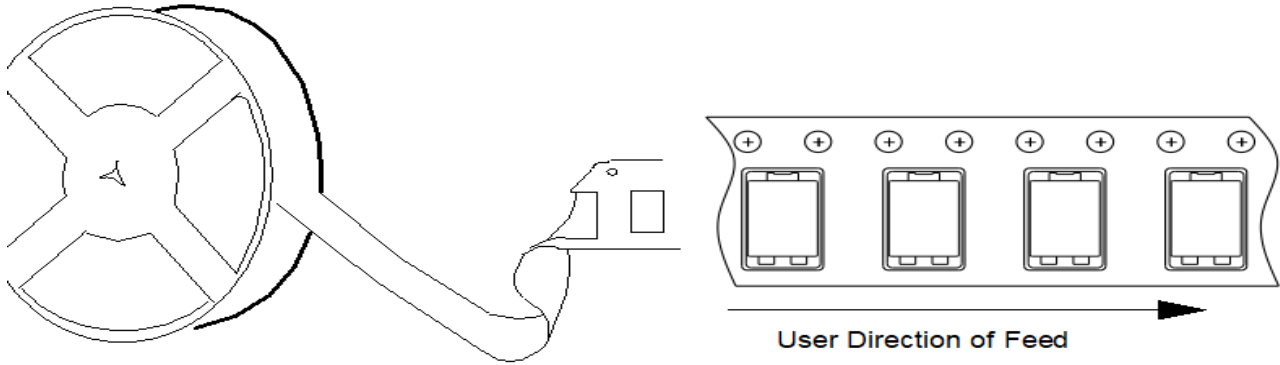
Tape Width (mm)	Maximum Rotation ( $\phi$ )
8,12	20
16-200	10



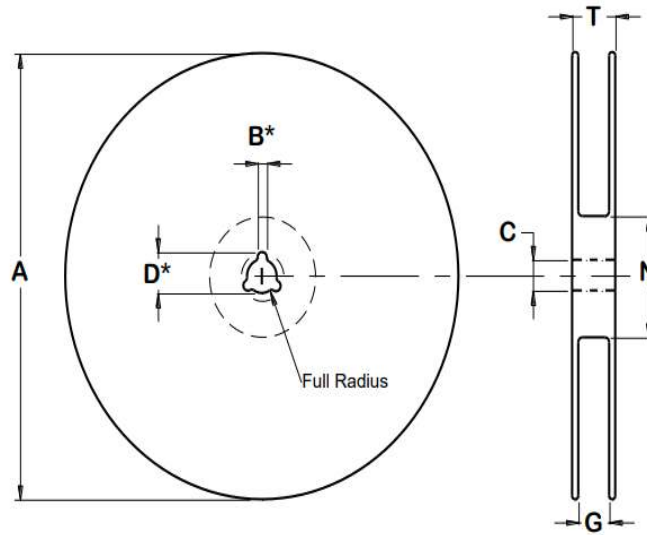
Tape Width (mm)	Maximum Rotation ( $\phi$ )
8,12	20
16-56	10
72-200	5

**PACKAGE AND PACKING INFORMATION**  
**G15H150D5**

**Polar Units**



**PACKAGE AND PACKING INFORMATION**  
**G15H150D5**



**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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