



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Features

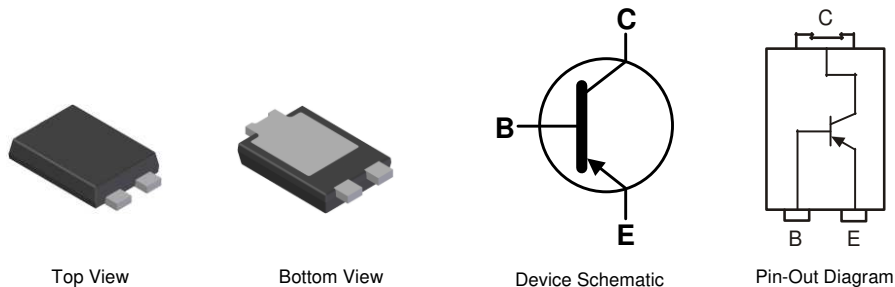
- $BV_{CEO} = -200V$
- $I_C = -2A$ High Continuous Collector Current
- $I_{CM} = -5A$ Peak Collector Current
- P_D up to 3.2W
- 43% smaller than SOT223; 60% smaller than TO252 (DPAK)
- Maximum height just 1.1mm
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Application

- DC – DC Conversion
- Telecoms
- Power Management

Mechanical Data

- Case: PowerDI[®]5
- Case Material: Molded Plastic, "Green" Molding Compound.
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin Annealed over Copper Leadframe.
Solderable per MIL-STD-202, Method 208 ^(e3)
- Weight: 0.093 grams (Approximate)

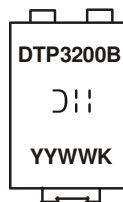


Ordering Information (Note 4)

Product	Compliance	Marking	Reel size (inches)	Tape width (mm)	Quantity per reel
DXTP03200BP5-13	AEC-Q101	DTP3200B	13	16	5,000

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
 2. See http://www.diodes.com/quality/lead_free.html 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. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information



DTP3200B = Product Type Marking Code
 J11 = Manufacturers' Code Marking
 K = Factory Designator
 YYWW = Date Code Marking
 YY = Last Two Digits of Year (ex: 09 for 2009)
 WW = Week Code (01 to 53)

Absolute Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	-220	V
Collector-Emitter Voltage	V _{CEO}	-200	V
Emitter-Base Voltage	V _{EBO}	-7	V
Continuous Collector Current	I _C	-2	A
Base Current	I _B	-1	A
Peak Pulse Current	I _{CM}	-5	A

Thermal Characteristics (@T_A = +25°C, unless otherwise specified.)

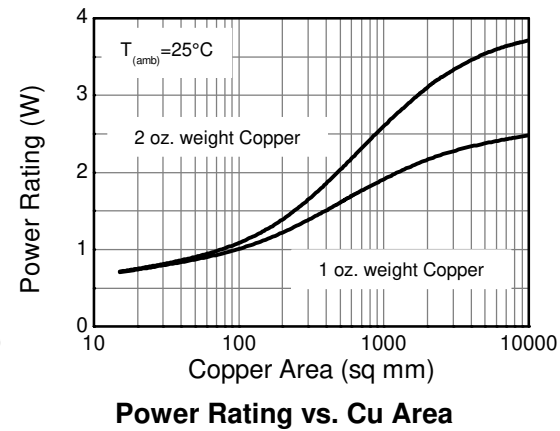
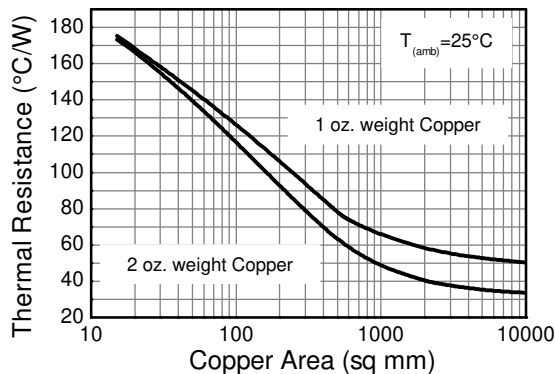
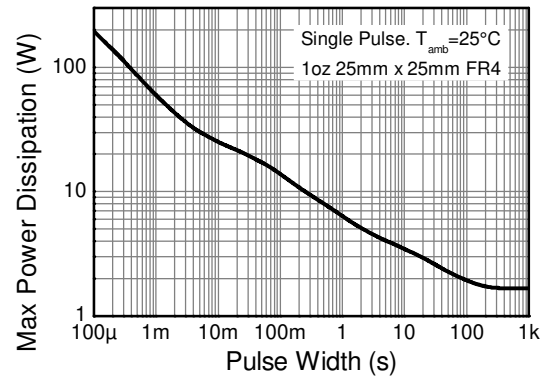
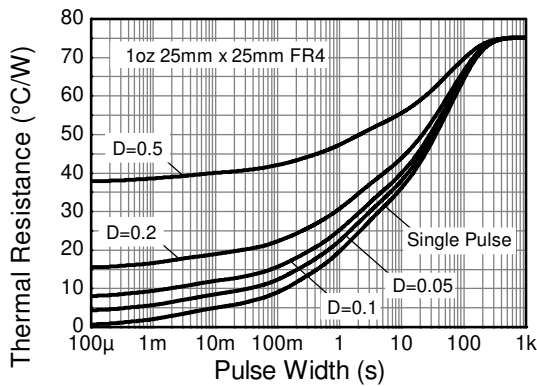
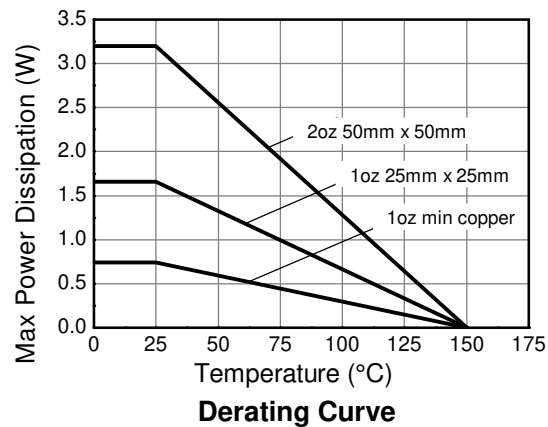
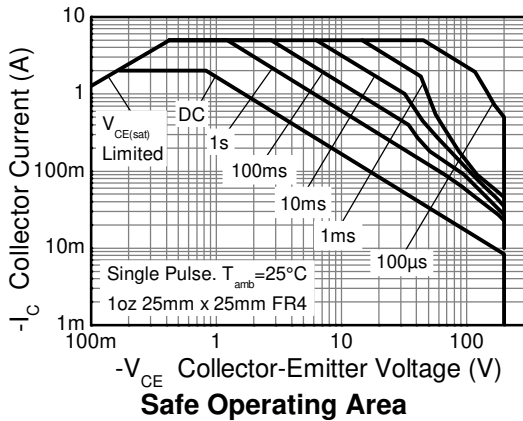
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	3.2	W
Thermal Resistance, Junction to Ambient Air (Note 5)	R _{θJA}	39	°C/W
Power Dissipation (Note 6)	P _D	1.7	W
Thermal Resistance, Junction to Ambient Air (Note 6)	R _{θJA}	75	°C/W
Power Dissipation (Note 7)	P _D	0.74	W
Thermal Resistance, Junction to Ambient Air (Note 7)	R _{θJA}	169	°C/W
Thermal Resistance, Junction to Lead (Note 8)	R _{θJL}	5.6	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

ESD Ratings (Note 9)

Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4,000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	400	V	C

- Notes:
5. Device mounted on FR-4 PCB, single sided 2 oz. copper, collector pad dimensions 50mm x 50mm.
 6. Device mounted on FR-4 PCB, single sided 1 oz. copper, collector pad dimensions 25mm x 25mm.
 7. Device mounted on FR-4 PCB, single sided 1 oz. copper, minimum recommended pad layout.
 - 8 Thermal resistance from junction to solder-point (on the exposed collector pad).
 9. Refer to JEDEC specification JESD22-A114 and JESD22-A115.

Thermal Characteristics and Derating Information

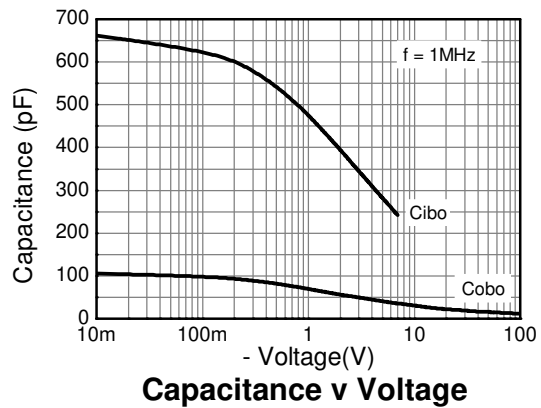
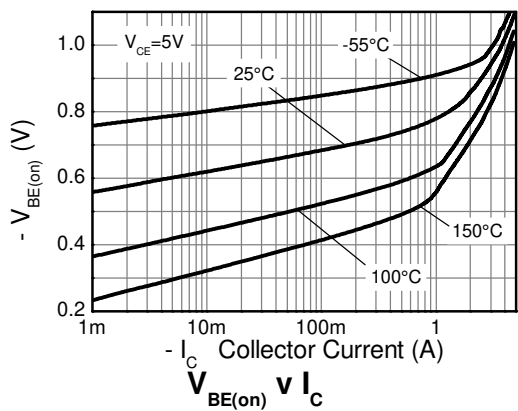
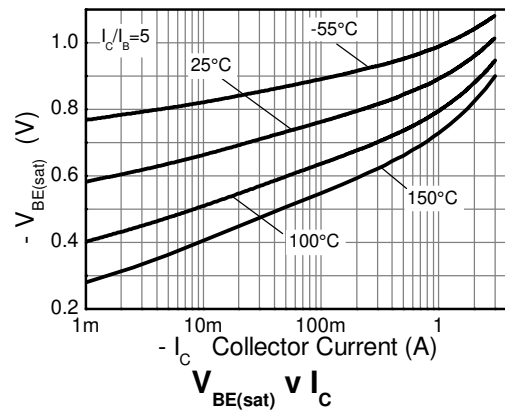
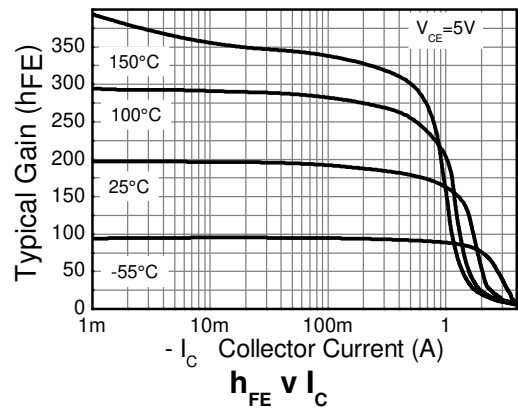
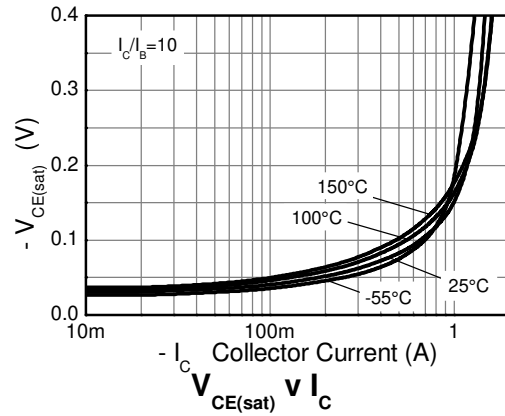
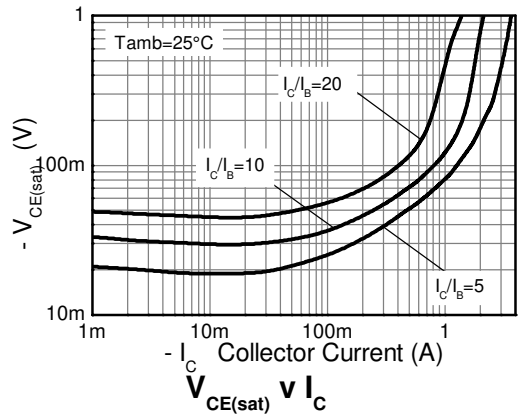


Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	V _{(BR)CBO}	-220	-245	–	V	I _C = -100μA
Collector-Emitter Breakdown Voltage (Note 10)	V _{(BR)CEO}	-200	-225	–	V	I _C = -10mA
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-7	-8.4	–	V	I _E = -100μA
Collector Cutoff Current	I _{CBO}	–	<1	-50 -0.5	nA μA	V _{CB} = -200V V _{CB} = -200V, T _A = +100°C
Emitter Cutoff Current	I _{EBO}	–	<1	-10	nA	V _{EB} = -6V
Collector-Emitter Saturation Voltage (Note 10)	V _{CE(sat)}	–	-37	-50	mV	I _C = -0.1A, I _B = -10mA
		–	-130	-155		I _C = -0.5A, I _B = -25mA
		–	-135	-160		I _C = -1A, I _B = -100mA
		–	-180	-275		I _C = -2A, I _B = -400mA
Base-Emitter Saturation Voltage (Note 10)	V _{BE(sat)}	–	-955	-1,100	mV	I _C = -2A, I _B = -400mA
Base-Emitter Turn-On Voltage (Note 10)	V _{BE(on)}	–	-860	-1,000	mV	V _{CE} = -5V, I _C = -2A
DC Current Gain (Note 10)	h _{FE}	100	195	–	–	V _{CE} = -5V, I _C = -10mA
		100	170	300		V _{CE} = -5V, I _C = -1A
		20	50	–		V _{CE} = -5V, I _C = -2A
		–	5	–		V _{CE} = -5V, I _C = -5A
Transition Frequency	f _T	–	105	–	MHz	V _{CE} = -10V, I _C = -100mA, f = 50MHz
Output Capacitance	C _{obo}	–	31	–	pF	V _{CB} = -10V, f = 1MHz
Delay Time	t _d	–	21	–	ns	V _{CC} = -50V, I _C = -1A, I _{B1} = -I _{B2} = -100mA
Rise Time	t _r	–	18	–	ns	
Storage Time	t _s	–	680	–	ns	
Fall Time	t _f	–	75	–	ns	

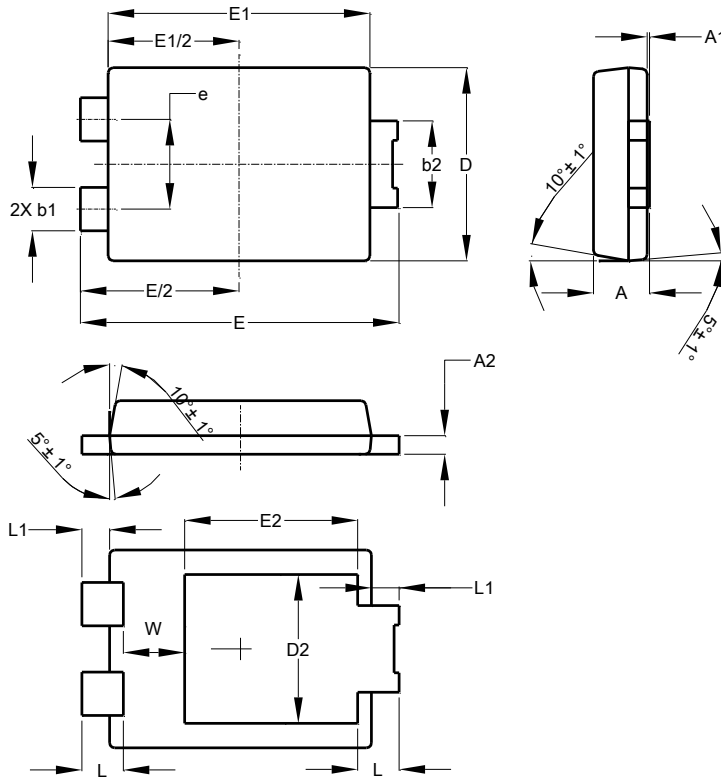
Note: 10. Pulse Test: Pulse width ≤300μs. Duty cycle ≤2.0%.

Typical Characteristics



Package Outline Dimensions

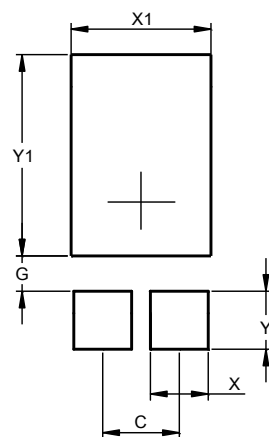
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



POWERDI [®] 5			
Dim	Min	Max	Typ
A	1.05	1.15	1.10
A1	0.00	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	--	--	3.054
E	6.40	6.60	6.504
e	--	--	1.84
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 Dimensions in mm			

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



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

Note: For high voltage applications, the appropriate industry sector guidelines should be considered with regards to creepage and clearance distances between device Terminals and PCB tracking.

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