

## Product Summary (Per Leg)

V <sub>RRM</sub> (V)	I <sub>o</sub> (A)	V <sub>F</sub> Max (V) @ +25°C	I <sub>R</sub> Max (μA) @ +25°C
100	15	0.73	80

## Description and Applications

The DIODES™ SDT30A100CTE provides very low V<sub>F</sub> and extremely excellent reverse leakage stability at high temperatures. It is ideal for use as a rectifier, freewheel diode or blocking diode in:

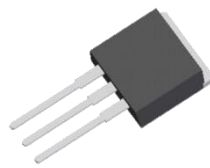
- DC-DC converters
- AC-DC adaptors

## Features

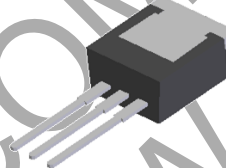
- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Soft, Fast Switching Capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](#) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

## Mechanical Data

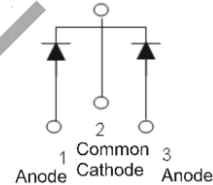
- Package: TO262
- Package Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 (E3)
- Weight: TO262 (Type HE) –1.355 grams (Approximate)



TO262 (Type HE)  
Top View



TO262 (Type HE)  
Bottom View



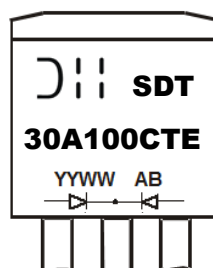
Package Pin Out  
Configuration

## Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
SDT30A100CTE	TO262 (Type HE)	50 Pieces	Tube

- Notes:
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. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information



SDT30A100CTE = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last Two Digits of Year (ex: 22 = 2022)  
 WW = Week (01 to 53)

**Maximum Ratings** (Per Leg) (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	100	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
Average Rectified Output Current per Device (Per Leg) (Total)	I <sub>O</sub>	15 30	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	210	A

**Thermal Characteristics** (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance (Note 5) Package = TO262 (Type HE)	R <sub>θJC</sub>	3	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

**Electrical Characteristics** (Per Leg) (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V <sub>F</sub>	—	0.67	0.73	V	I <sub>F</sub> = 15A, T <sub>J</sub> = +25°C
		—	0.62	0.68		I <sub>F</sub> = 15A, T <sub>J</sub> = +125°C
Leakage Current (Note 6)	I <sub>R</sub>	—	8	80	μA mA	V <sub>R</sub> = 100V, T <sub>J</sub> = +25°C
		—	6	18		V <sub>R</sub> = 100V, T <sub>J</sub> = +125°C

Notes: 5. 2inch\*2inch Al board + 50mm\*50mm\*23mm Al heatsink.  
6. Short duration pulse test used to minimize self-heating effect.

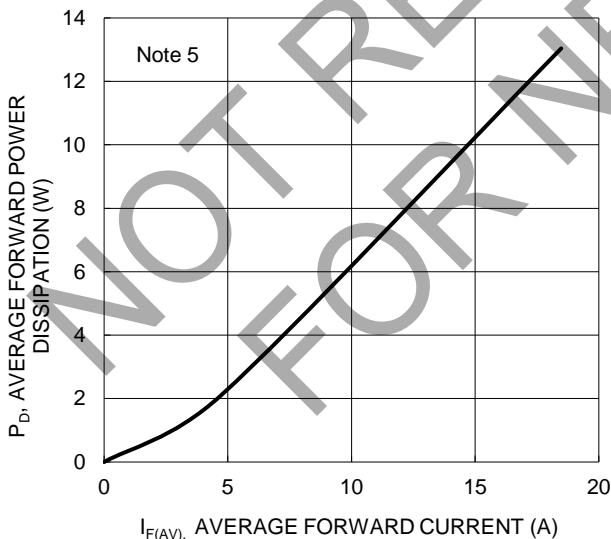


Figure 1 Forward Power Dissipation

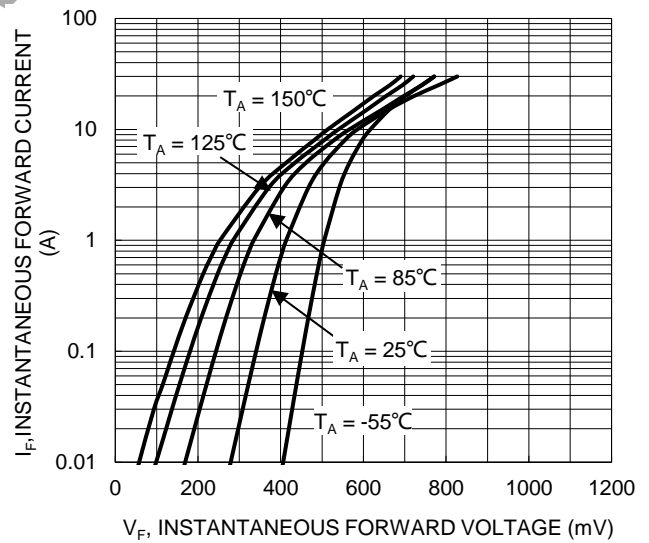


Figure 2 Typical Forward Characteristics

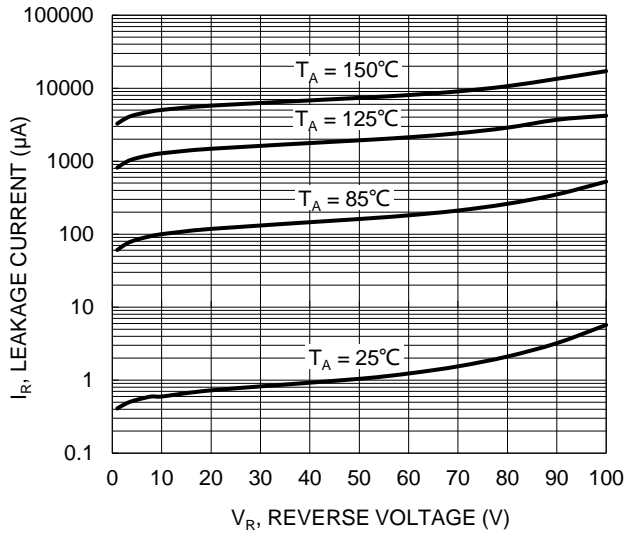


Figure 3 Typical Reverse Characteristics

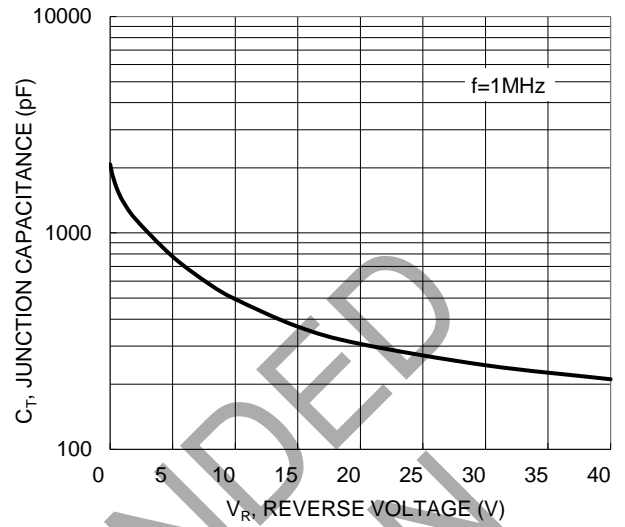


Figure 4 Typical Junction Capacitance

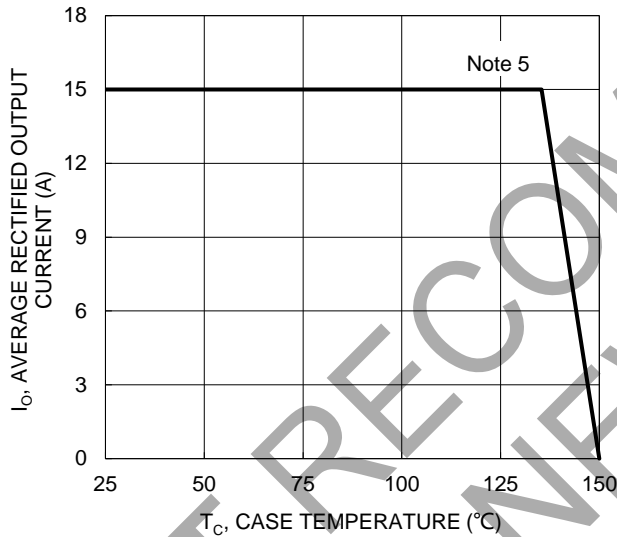


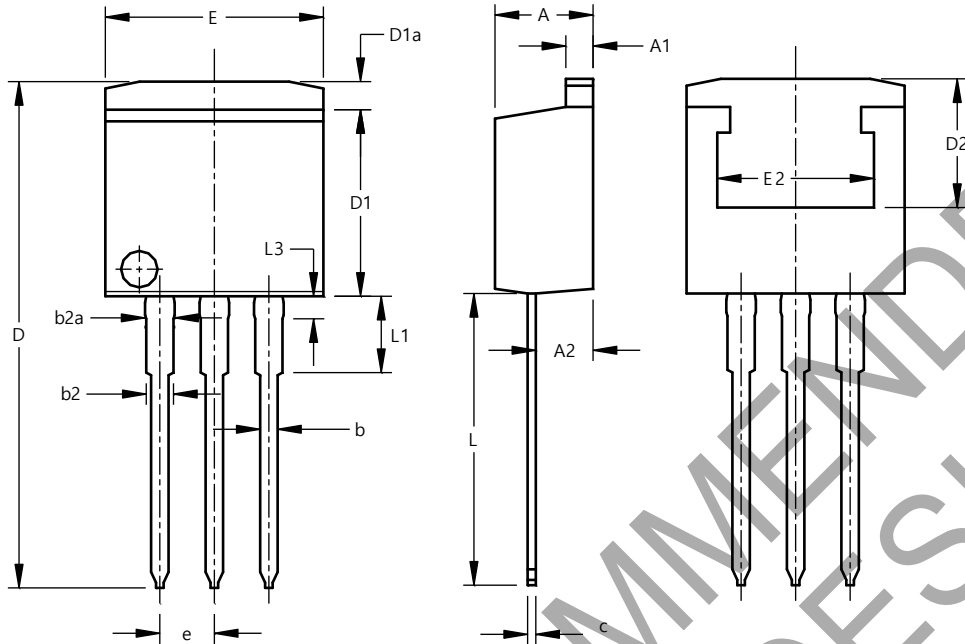
Figure 5 DC Forward Current Derating

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**Package Outline Dimensions**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**TO262 (Type HE)**



TO262 (Type HE)			
Dim	Min	Max	Typ
A	4.37	4.77	4.57
A1	1.22	1.42	1.27
A2	2.47	2.87	2.67
b	0.70	0.97	0.813
b2	1.17	1.42	1.27
b2a	1.25	1.50	1.35
c	0.28	0.53	0.381
D	23.20	24.02	23.61
D1	8.38	8.90	8.70
D1a	--	1.31	--
D2	6.00	--	--
e	2.54 BSC		
E	9.90	10.39	10.16
E2	7.30	--	--
L	13.34	14.10	13.73
L1	3.30	4.06	3.56
L3	0.95	1.15	1.05
<b>All Dimensions in mm</b>			

NOT RECOMMENDED FOR NEW DESIGN

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