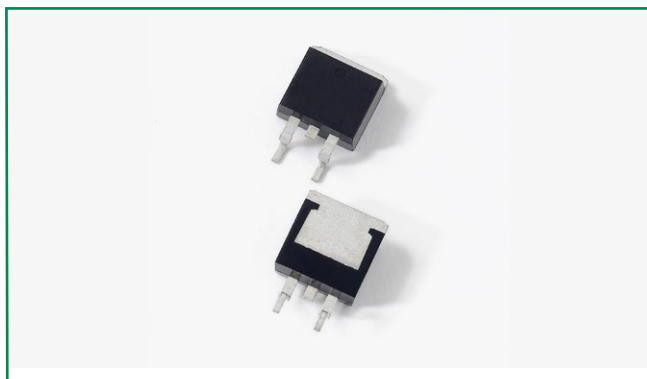
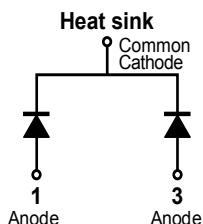


### DSTB2045C



#### Pin out



#### Description

Littelfuse DST series Ultra Low  $V_F$  Schottky Barrier Rectifier is designed to meet the general requirements of commercial and industry applications by providing high temperature, low leakage and low  $V_F$  products.

It is suitable for high frequency switching mode power supply applications, as free-wheeling and polarity protection diodes.

#### Features

- Ultra low forward voltage drop
- High frequency operation
- High junction temperature capability
- Guard ring for enhanced ruggedness and long term reliability
- Common cathode configuration in TO-263 package

#### Applications

- Switching mode power supply
- DC/DC converters
- Free-Wheeling diodes
- Polarity Protection Diodes

#### Maximum Ratings

Parameters	Symbol	Test Conditions	Max	Unit
Peak Inverse Voltage	$V_{RWM}$	-	45	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 80^\circ\text{C}$ rectangular wave form	10 (per leg) 20 (total device)	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	150	A

#### Electrical Characteristics

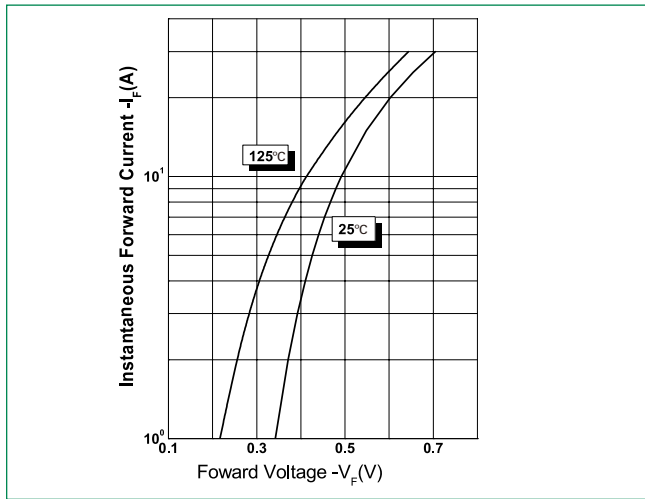
Parameters	Symbol	Test Conditions	Max	Unit
Forward Voltage Drop (per leg) *	$V_{F1}$	@10A, Pulse, $T_J = 25^\circ\text{C}$	<0.5	V
	$V_{F2}$	@10A, Pulse, $T_J = 125^\circ\text{C}$	0.42	
Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$ , $T_J = 25^\circ\text{C}$	0.003 - 0.018	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R$ , $T_J = 125^\circ\text{C}$	5.5 - 15	

\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle < 2%

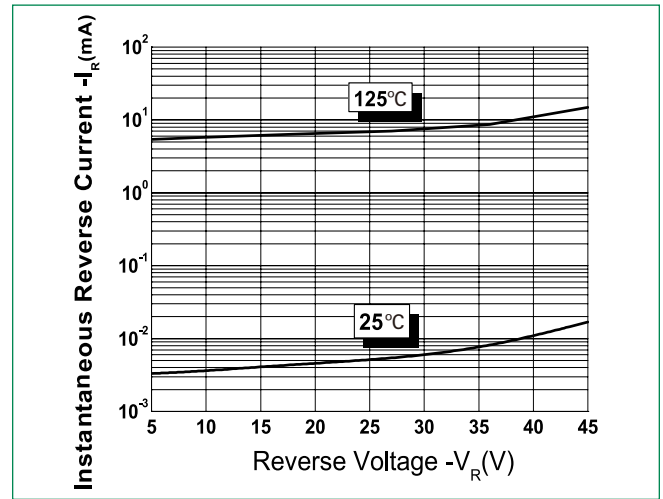
### Thermal-Mechanical Specifications

Parameters	Symbol	Test Conditions	Max	Unit
Junction Temperature	$T_J$		-55 to +150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C
Typical Thermal Resistance Junction to Case(per leg)	$R_{\theta JC}$	DC operation	3.0	°C/W
Approximate Weight	wt		1.85	g
Case Style	D <sup>2</sup> PAK (TO-263)			

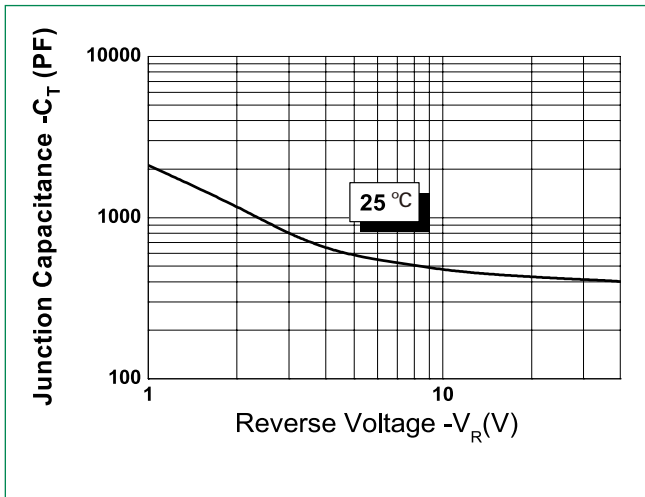
**Figure 1: Typical Forward Characteristics**



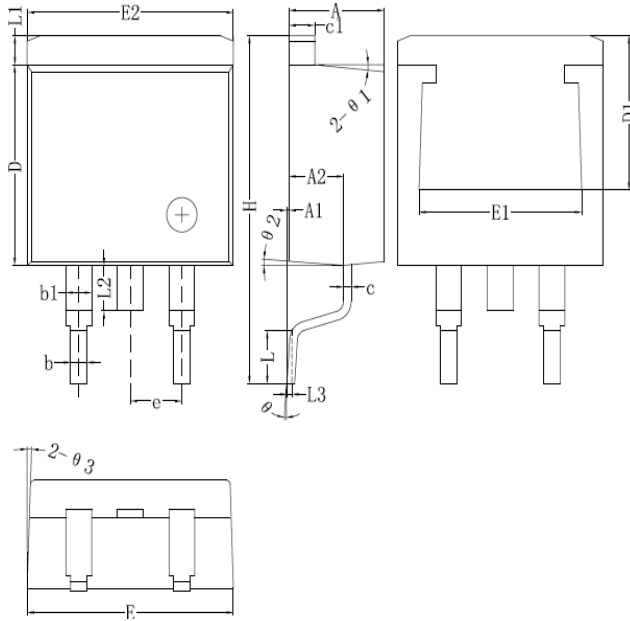
**Figure 2: Typical Reverse Characteristics**



**Figure 3: Typical Junction Capacitance**

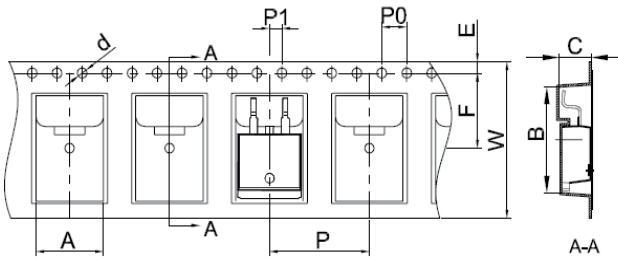


### Dimensions-D<sup>2</sup>PAK(TO-263)



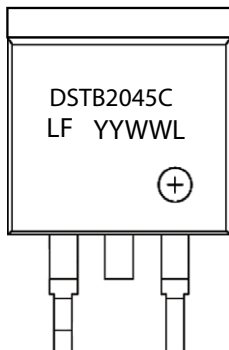
Symbol	Dimensions in Millimeters		
	Min	Typical	Max
<b>A</b>	4.47	4.70	4.85
<b>A1</b>	0	0.10	0.25
<b>A2</b>	2.59	2.69	2.89
<b>b</b>	0.71	0.81	0.96
<b>b1</b>	1.17	1.27	1.37
<b>c</b>	0.31	0.38	0.61
<b>c1</b>	1.17	1.27	1.37
<b>D</b>	8.50	8.70	8.90
<b>D1</b>	6.70	-	7.70
<b>E</b>	10.01	10.16	10.31
<b>E1</b>	7.2	-	8.1
<b>E2</b>	9.98	10.08	10.31
<b>e</b>	-	2.54	-
<b>H</b>	14.6	15.1	15.6
<b>L</b>	2.00	2.30	2.74
<b>L1</b>	1.12	1.27	1.42
<b>L2</b>	1.30	-	2.20
<b>L3</b>	-	0.25BSC	-
<b>e</b>	0	-	8°
<b>e1</b>	-	5°	-
<b>e2</b>	-	4°	-
<b>e3</b>	-	4°	-

### Carrier Tape & Reel Specification



Symbol	Millimeters	
	Min	Max
<b>A</b>	10.70	10.90
<b>B</b>	16.03	16.23
<b>C</b>	5.11	5.31
<b>d</b>	ø1.45	ø1.65
<b>E</b>	1.65	1.85
<b>F</b>	11.40	11.60
<b>P0</b>	3.90	4.10
<b>P</b>	15.90	16.10
<b>P1</b>	1.90	2.10
<b>W</b>	23.90	24.30

### Part Numbering and Marking System



- DST = Component Type
- B = Package Type
- 20 = Forward Current (20A)
- 45 = Reverse Voltage (45V)
- C = Configuration
- LF = Littelfuse
- YY = Year
- WW = Week
- L = Lot Number

### Packing Options

Part Number	Marking	Packing Mode	M.O.Q
DSTB2045C	DSTB2045C	800pcs / reel	800

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