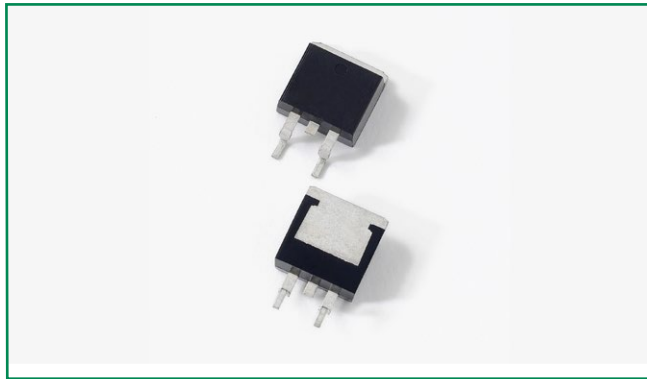
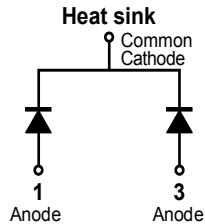


### DSTB60100C



#### 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 lower  $V_F$  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	$V_{RWM}$	-	100	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 105^\circ\text{C}$ rectangular wave form	30 (per leg)	A
			60 (total device)	
Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	300	A

#### Electrical Characteristics

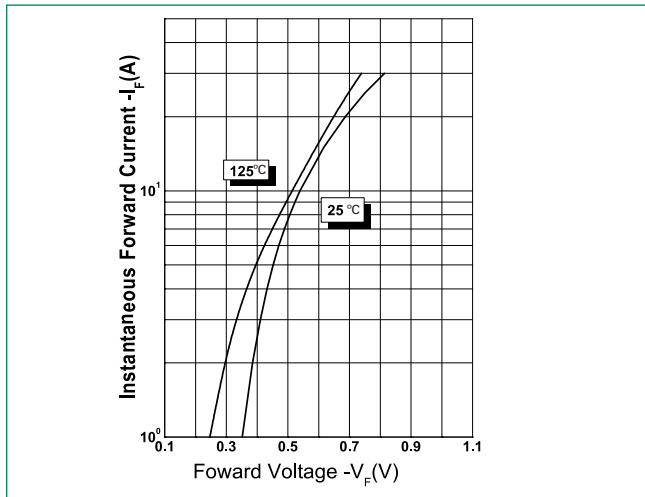
Parameters	Symbol	Test Conditions	Typ	Max	Unit
Forward Voltage Drop (per leg) *	$V_{F1}$	@5A, Pulse, $T_J = 25^\circ\text{C}$	0.47	-	V
		@10A, Pulse, $T_J = 25^\circ\text{C}$	0.54	-	
		@15A, Pulse, $T_J = 25^\circ\text{C}$	0.61	0.68	
		@20A, Pulse, $T_J = 25^\circ\text{C}$	0.68	-	
		@30A, Pulse, $T_J = 25^\circ\text{C}$	0.82	0.90	
	$V_{F2}$	@5A, Pulse, $T_J = 125^\circ\text{C}$	0.38	-	
		@10A, Pulse, $T_J = 125^\circ\text{C}$	0.51	-	
		@15A, Pulse, $T_J = 125^\circ\text{C}$	0.58	0.65	
		@20A, Pulse, $T_J = 125^\circ\text{C}$	0.64	-	
		@30A, Pulse, $T_J = 125^\circ\text{C}$	0.74	0.80	
Reverse Current (per leg) *	$I_{R1}$	@ $V_R = 70\text{V}$ , $T_J = 25^\circ\text{C}$	0.012	-	mA
		@ $V_R = 100\text{V}$ , $T_J = 25^\circ\text{C}$	0.030	1	
	$I_{R2}$	@ $V_R = 70\text{V}$ , $T_J = 125^\circ\text{C}$	10	-	
		@ $V_R = 100\text{V}$ , $T_J = 125^\circ\text{C}$	15	75	
Junction Capacitance (per leg)	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25^\circ\text{C}$ , $f_{SIG} = 1\text{MHz}$	845	-	pF

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

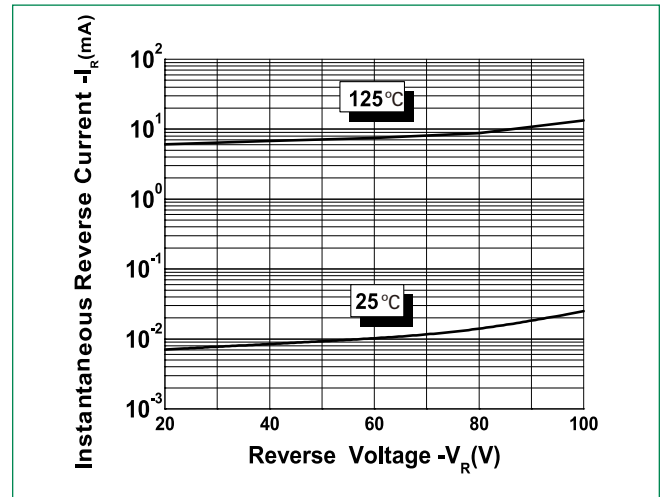
**Thermal-Mechanical Specifications**

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	2.0	°C/W
Approximate Weight	wt		1.8	g
Case Style	D <sup>2</sup> PAK (TO-263)			

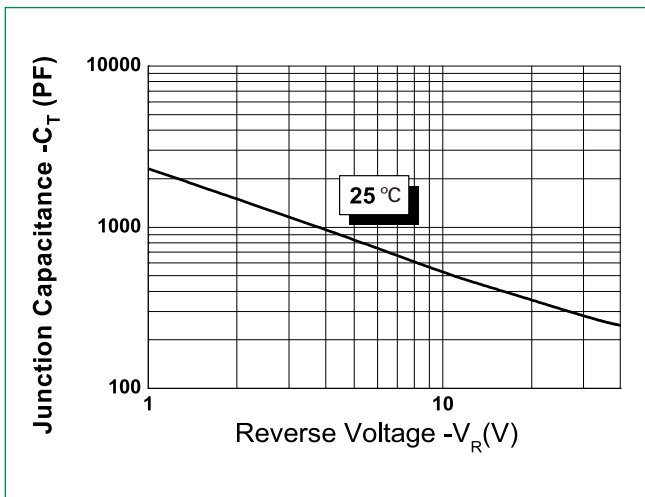
**Figure 1: Typical Forward Characteristics**



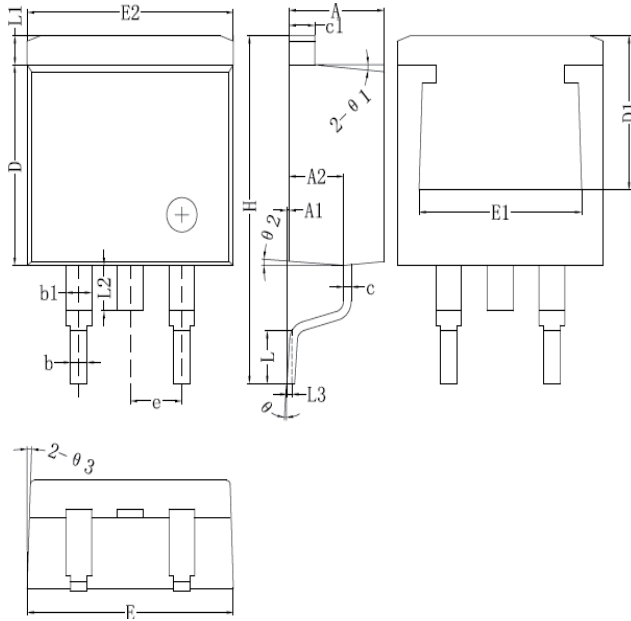
**Figure 2: Typical Reverse Characteristics**



**Figure 3: Typical Junction Capacitance**

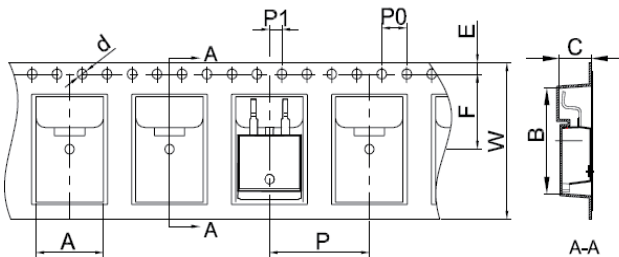


**Dimensions-D<sup>2</sup>PAK(TO-263)**



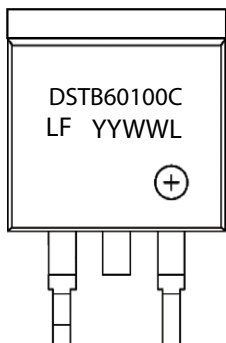
Symbol	Dimensions in Millimeters		
	Min	Typical	Max
A	4.47	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1	1.17	1.27	1.37
c	0.31	0.38	0.61
c1	1.17	1.27	1.37
D	8.50	8.70	8.90
D1	6.70	-	7.70
E	10.01	10.16	10.31
E1	7.2	-	8.1
E2	9.98	10.08	10.31
e	-	2.54	-
H	14.6	15.1	15.6
L	2.00	2.30	2.74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

**Carrier Tape & Reel Specification**



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

**Part Numbering and Marking System**



- DST = Component Type
- B = Package Type
- 60 = Forward Current (60A)
- 100 = Reverse Voltage (100V)
- C = Configuration
- LF = Littelfuse
- YY = Year
- WW = Week
- L = Lot Number

**Packing Options**

Part Number	Marking	Packing Mode	M.O.Q
DSTB60100C	DSTB60100C	800pcs / reel	800