DSTB60100C

RoHS Pb

Pin out

Heat sink

Common
Cathode

1
Anode

3
Anode

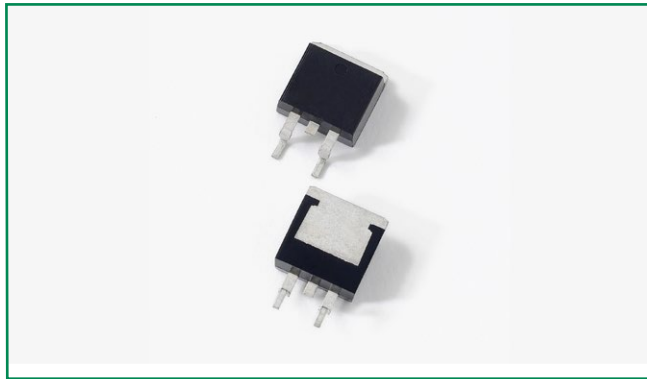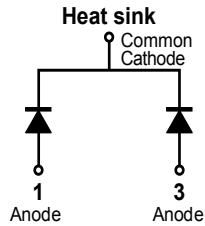### Description

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°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 °C	0.47	-	V
		@10A, Pulse, T_J = 25 °C	0.54	-	
		@15A, Pulse, T_J = 25 °C	0.61	0.68	
		@20A, Pulse, T_J = 25 °C	0.68	-	
		@30A, Pulse, T_J = 25 °C	0.82	0.90	
	V_{F2}	@5A, Pulse, T_J = 125 °C	0.38	-	
		@10A, Pulse, T_J = 125 °C	0.51	-	
		@15A, Pulse, T_J = 125 °C	0.58	0.65	
		@20A, Pulse, T_J = 125 °C	0.64	-	
		@30A, Pulse, T_J = 125 °C	0.74	0.80	
Reverse Current (per leg) *	I_{R1}	@V_R = 70V, T_J = 25 °C	0.012	-	mA
		@V_R = 100V, T_J = 25 °C	0.030	1	
	I_{R2}	@V_R = 70V, T_J = 125 °C	10	-	
		@V_R = 100V, T_J = 125 °C	15	75	
Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °C, f_{SIG} = 1MHz	845	-	pF

* Pulse Width < 300µs, 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		D²PAK (TO-263)		

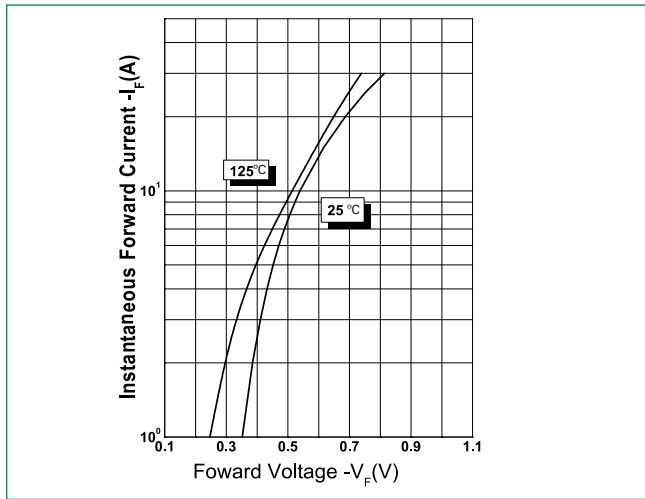### Figure 1: Typical Forward Characteristics
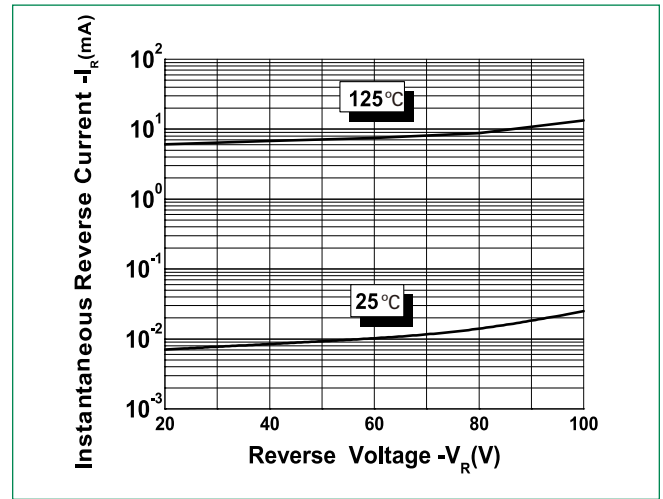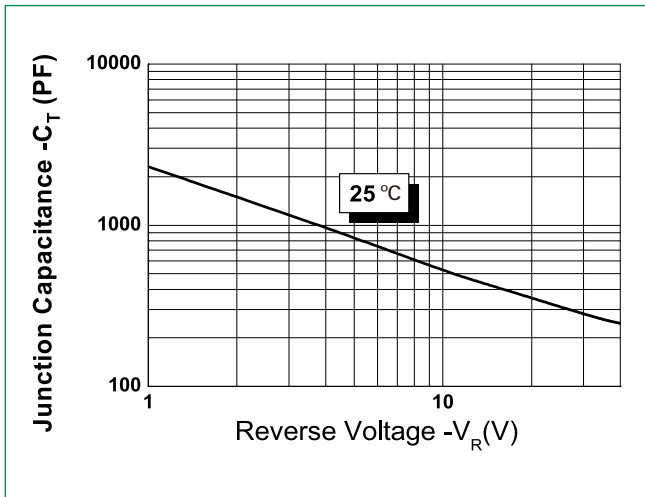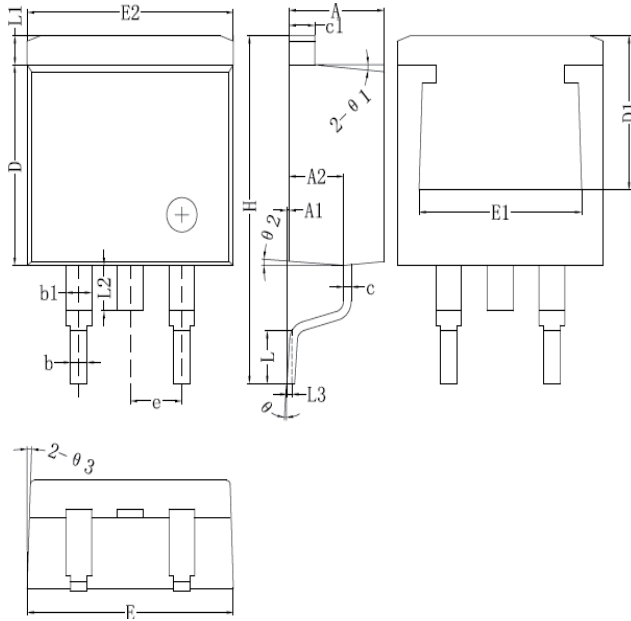

Figure 2: Typical Reverse Characteristics
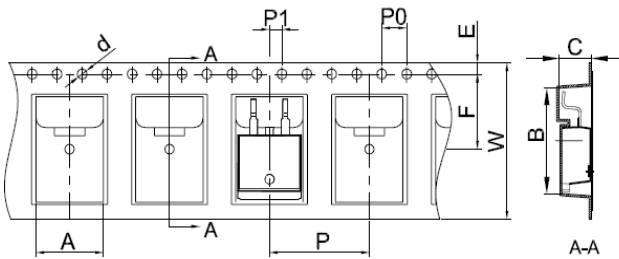

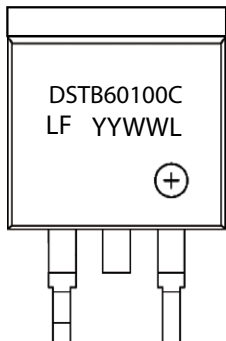### Figure 3: Typical Junction Capacitance

Dimensions-D²PAK(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

DSTB60100C
LF YYWWL

DST = Componant 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

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