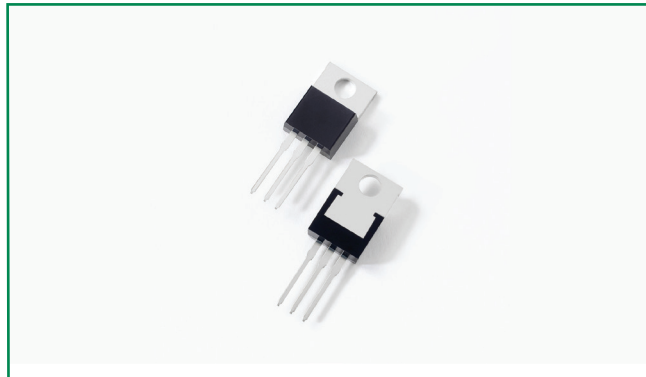


DST40100C



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, free-wheeling diodes 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-220AB 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 @ $T_C = 115^\circ\text{C}$ rectangular wave form	20 (per leg) 40 (total device)	A
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	-	
		@20A, Pulse, $T_J = 25^\circ\text{C}$	0.68	0.75	
	V_{F2}	@5A, Pulse, $T_J = 125^\circ\text{C}$	0.38	-	
		@10A, Pulse, $T_J = 125^\circ\text{C}$	0.51	-	
		@20A, Pulse, $T_J = 125^\circ\text{C}$	0.64	0.70	
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 μs , 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
Thermal Resistance Junction to Case (per leg)	R_{thJC}	DC operation	2.0	°C/W
Approximate Weight	wt		2	g
Case Style		TO-220AB		

Figure 1: Typical Forward Characteristics

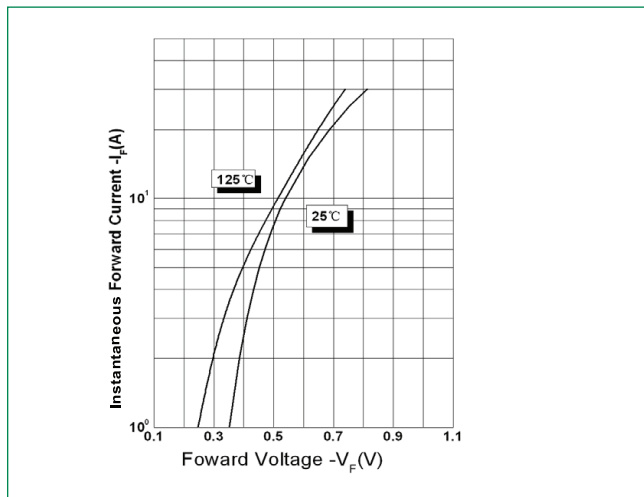


Figure 2: Typical Reverse Characteristics

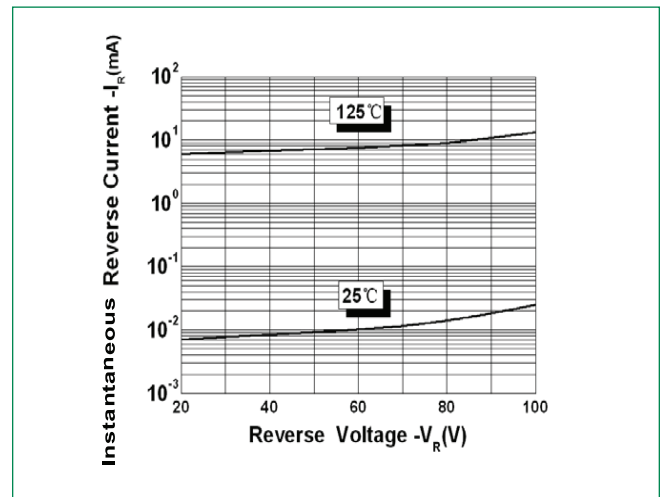
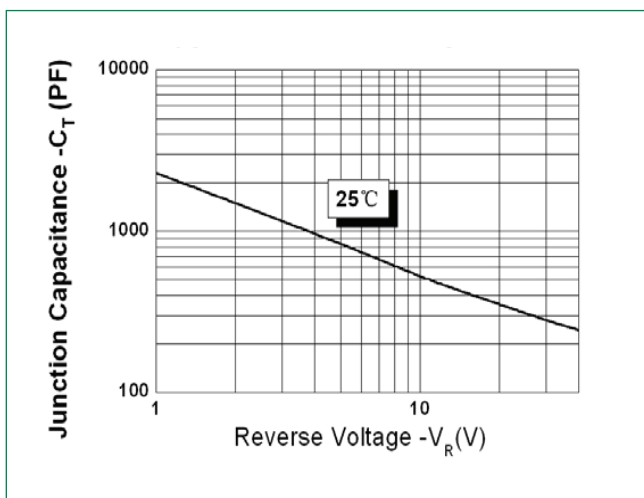
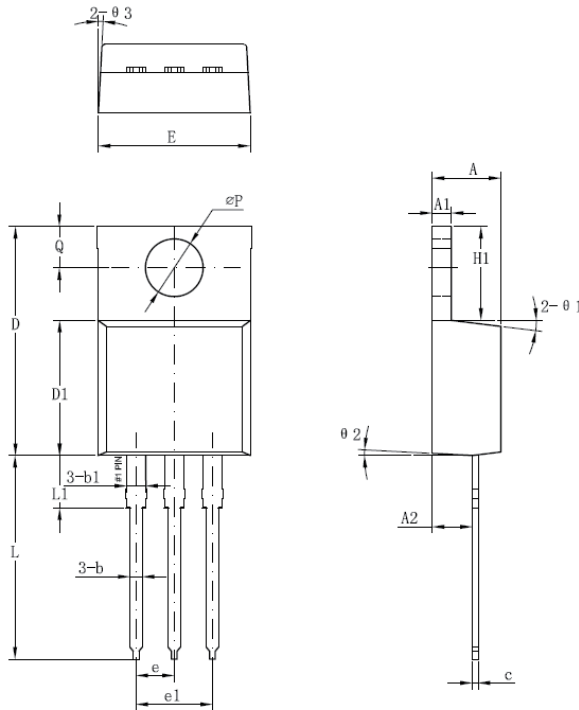


Figure 3: Typical Junction Capacitance



Dimensions- TO-220AB



Symbol	Millimeters	
	Min	Max
A	3.56	4.83
A1	0.51	1.40
A2	2.03	2.92
b	0.38	1.02
b1	1.14	1.78
c	0.31 *	0.61
D	14.22	16.51
D1	8.38	9.15 *
E	9.65	10.67
e	2.54	-
e1	4.98 *	-
H1	5.84	6.86
L	12.70	14.73
L1	-	6.35
øP	3.53	4.09
Q	2.54	3.43

Footnote *: The spec. does not comply with JEDEC spec.

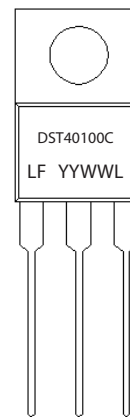
Packing Options

Part Number	Marking	Packing Mode	M.O.Q
DST40100C	DST40100C	50pcs / Tube	1000

Tube Specification



Part Numbering and Marking System



DST = Device Type
40 = Forward Current (40A)
100 = Reverse Voltage (100V)
C = Configuration
LF = Littelfuse
YY = Year
WW = Week
L = Lot Number