# Schottky Barrier Rectifier DST2045C, 2x10A, 45V, TO-220AB, Common Cathode

DST2045C

ittelfuse

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#### Description

Littelfuse DST series Ultra Low V<sub>F</sub> Schottky Barrier Rectifier is designed to meet the general requirements of commercial and industry applications by providing high temperature, low leakage and lower V<sub>F</sub> 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

RoHS PO

• 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 <sub>RWM</sub>	-	45	V
Average Forward Current	I <sub>F(AV)</sub>	50% duty cycle @T <sub>c</sub> =80°C rectangular wave form	10 (per leg)	A
			20 (total device)	
Peak One Cycle Non-Repetitive Surge Current (per leg)	I <sub>FSM</sub>	8.3 ms, half Sine pulse	150	A

#### **Electrical Characteristics**

Parameters	Symbol	Test Conditions	Max	Unit
Forward Voltage Drop (per leg) *	V <sub>F1</sub>	@10A, Pulse, T <sub>J</sub> = 25 °C	0.58	V
	V <sub>F2</sub>	@10A, Pulse, T <sub>J</sub> = 125 °C	0.52	V
Reverse Current (per leg) *	I <sub>R1</sub>	$@V_{R} = rated V_{R}T_{J} = 25 \text{ °C}$	2	mA
	<sub>P2</sub>	@V <sub>p</sub> = rated V <sub>p</sub> T <sub>1</sub> = 125 °C	30	]

\* Pulse Width < 300µs, Duty Cycle <2%

# **Thermal-Mechanical Specifications**

Parameters	Symbol	Test Conditions	Max	Unit
Junction Temperature	TJ		-55 to +150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C
Thermal Resistance Junction to Case (per leg)	$R_{_{thJC}}$	DC operation	3.0	°C/W
Approximate Weight	wt		1.8	g
Case Style	TO-220AB			

# Figure 1: Typical Forward Characteristics



# Figure 3: Typical Junction Capacitance



# Figure 2: Typical Reverse Characteristics





# Dimensions-TO-220AB





Symbol	Millimeters		
	Min	Max	
А	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	
е	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.





32mm

#### Part Numbering and Marking System

DST

20

45 C

LF

YY WW

L



= Device Type

- = Forward Current (20A)
- = Reverse Voltage (45V)
- = Configuration = Littelfuse
- = Year
- = Week
- = Lot Number

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Littelfuse: DST2045C