

### DST2045AX



#### 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
- Single die in P600 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 (per device)	$I_{F(AV)}$	50% duty cycle @ $T_A = 25^\circ\text{C}$ rectangular wave form	20	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	250	A

#### Electrical Characteristics

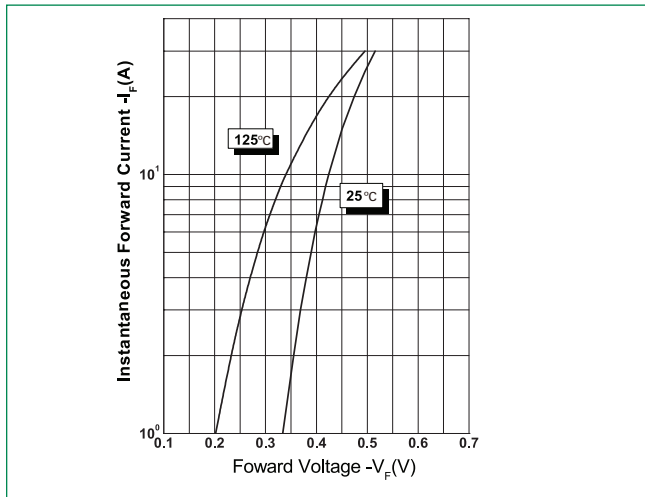
Parameters	Symbol	Test Conditions	Max	Unit
Forward Voltage Drop (per leg) *	$V_{F1}$	@20A, Pulse, $T_J = 25^\circ\text{C}$	0.58	V
	$V_{F2}$	@20A, Pulse, $T_J = 125^\circ\text{C}$	0.50	
Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$ , $T_J = 25^\circ\text{C}$	1.2	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R$ , $T_J = 125^\circ\text{C}$	35	

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

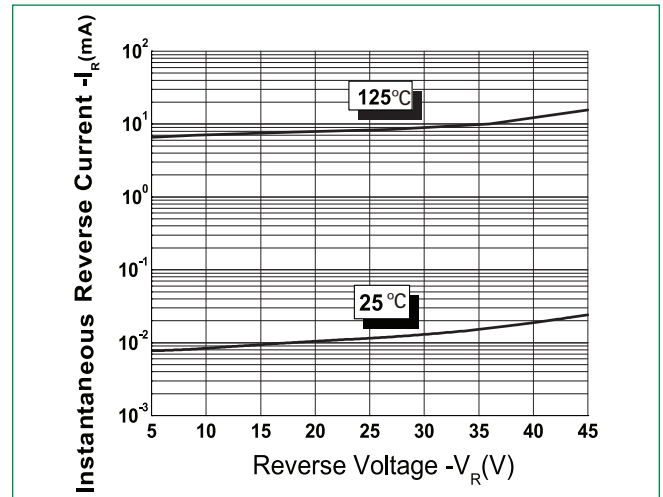
### Thermal-Mechanical Specifications

Parameters	Symbol	Test Conditions	Max	Unit
Junction Temperature	$T_J$		-55 to +150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C
Thermal Resistance Junction to Ambient	$R_{th,JA}$	DC operation	55	°C/W
Approximate Weight	wt		2.24	g
Case Style		P600		

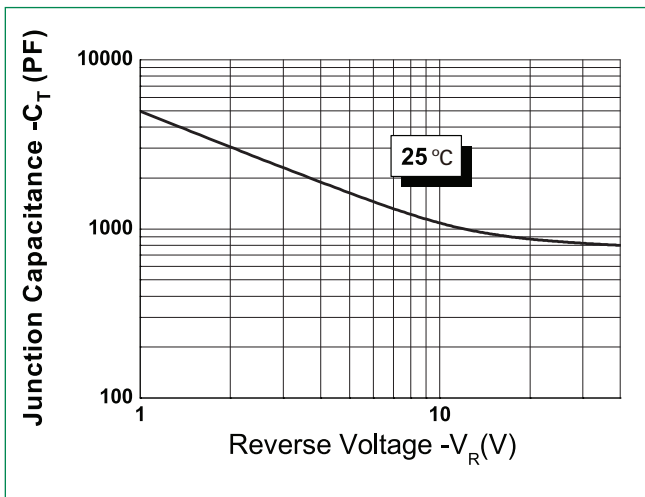
**Figure 1: Typical Forward Characteristics**



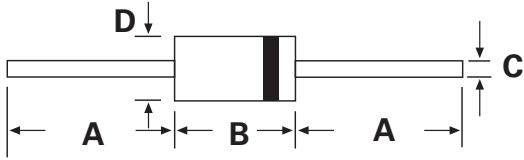
**Figure 2: Typical Reverse Characteristics**



**Figure 3: Typical Junction Capacitance**



### Dimensions- P600



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	1.000	-	25.40	-
B	0.340	0.360	8.60	9.10
C	0.048	0.052	1.20	1.30
D	0.340	0.360	8.60	9.10

### Part Numbering and Marking System

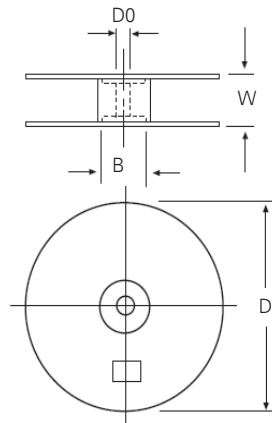
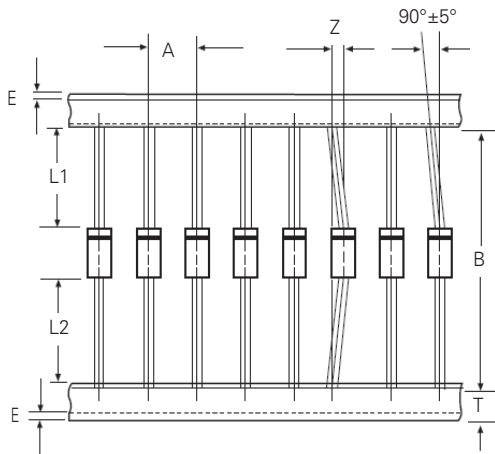


- DS = Device Type
- T = Ultralow VF
- 20 = Forward Current (20A)
- 45 = Reverse Voltage (45V)
- AX = Package Type
- LF = Littelfuse
- YY = Year
- WW = Week
- L = Lot Number

### Packing Options

Part Number	Marking	Packing Mode	M.O.Q
DST2045AX	DST2045AX	500pcs / reel	2500

### Carrier Tape & Reel Specification



Symbol	Millimeters	
	Min	Max
A	9.5	10.5
B	50.9	53.9
D	330.0 typ	
D0	30.1	30.9
E	0.8 max	
L1	1.0 max	
L2	1.0 max	
T	5.6	6.4
W	78.0	81.0
Z	1.2 max	