

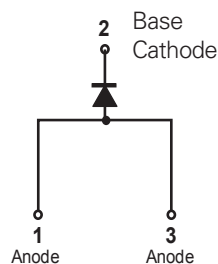
Schottky Barrier Rectifier

DSTD5200, 5A, 200V, TO-252 (single die)

DSTD5200



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 TO-252 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}	-	200	V
Average Forward Current (per device)	$I_{F(AV)}$	50% duty cycle @ $T_C = 100^\circ\text{C}$ rectangular wave form	5	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	120	A

Electrical Characteristics

Parameters	Symbol	Test Conditions	Typ	Max	Unit
Breakdown Voltage (per leg) *	V_{BR}	@ $I_R = 1.0\text{mA}$, $T_J = 25^\circ\text{C}$	200(Min)	-	V
Forward Voltage Drop (per leg) *	V_{F1}	@2.5A, Pulse, $T_J = 25^\circ\text{C}$	0.72	-	V
		@5A, Pulse, $T_J = 25^\circ\text{C}$	0.81	0.90	
	V_{F2}	@2.5A, Pulse, $T_J = 125^\circ\text{C}$	0.60	-	
		@5A, Pulse, $T_J = 125^\circ\text{C}$	0.67	0.73	
Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$, $T_J = 25^\circ\text{C}$	0.19	150	μA
	I_{R2}	@ $V_R = \text{rated } V_R$, $T_J = 125^\circ\text{C}$	0.33	10	mA

* 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
Typical Thermal Resistance Junction to Case	R_{thJC}	DC operation	2.4	°C/W
Approximate Weight	wt		0.39	g
Case Style	DPAK(TO-252)			

Figure 1: Typical Forward Characteristics

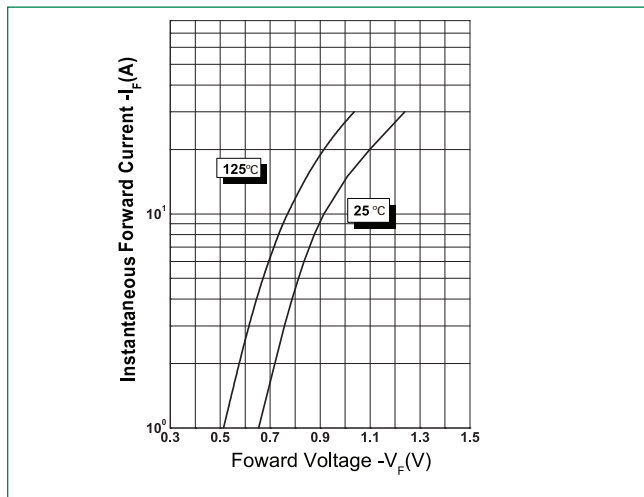


Figure 2: Typical Reverse Characteristics

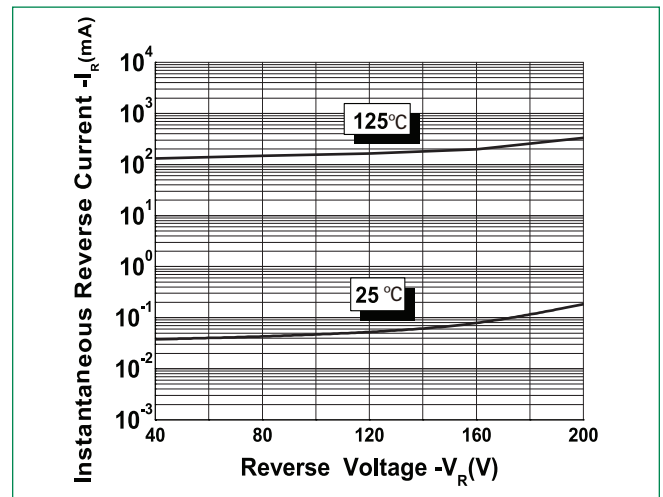
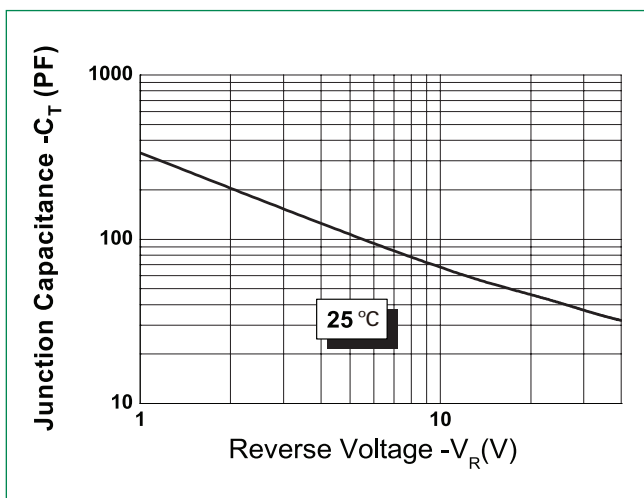
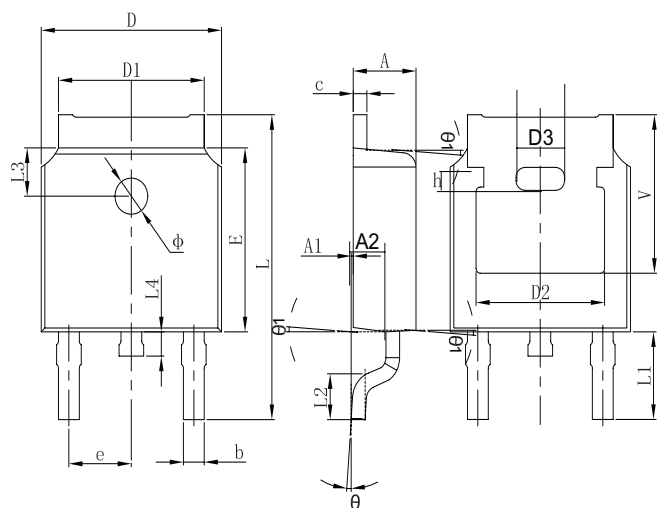


Figure 3: Typical Junction Capacitance

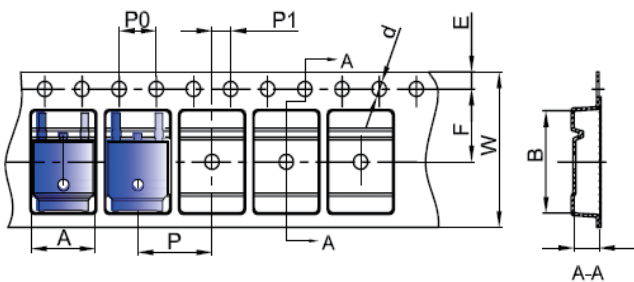


Dimensions-DPAK(TO-252)



Symbol	Millimeters	
	Min	Max
A	2.20	2.38
A1	0	0.10
b	0.71	0.81
c	0.46	0.56
D	6.50	6.70
D1	5.13	5.46
D2	4.83 REF	
E	6.00	6.20
e	2.186	2.386
L	9.80	10.40
L1	2.90 REF	
L2	1.40	1.70
L3	1.60 REF	
L4	0.60	1.00
Ø	1.10	1.30
θ	0°	8°
A2	0.91	1.11
V	5.35 REF	
D3	1.778 REF	
h	0.762 REF	
θ1	7°	

Carrier Tape & Reel Specification



Symbol	Millimeters	
	Min	Max
A	6.80	7.00
B	10.40	10.60
C	2.60	2.80
d	ø1.45	ø1.65
E	1.65	1.85
F	7.40	7.60
P0	3.90	4.10
P	7.90	8.10
P1	1.90	2.10
W	15.90	16.30

Part Numbering and Marking System



DST = Device Type
D = Package type
5 = Forward Current (5A)
200 = Reverse Voltage (200V)
CT = Configuration
LF = Littelfuse
YY = Year
WW = Week
L = Lot Number

Packing Options

Part Number	Marking	Packing Mode	M.O.Q
DSTD5200	DSTD5200	2500pcs / reel	2500