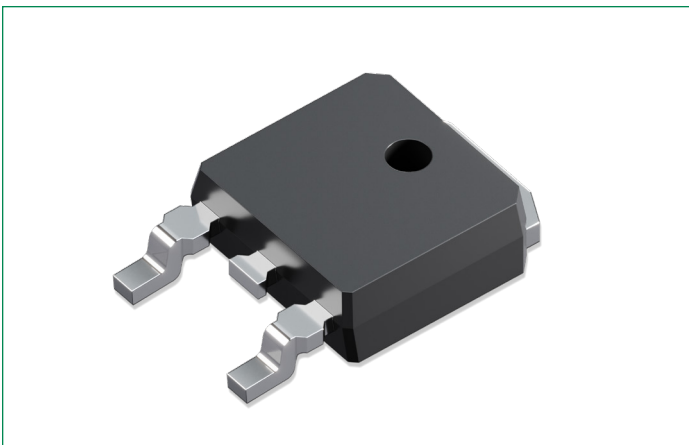


DSS6-0045AS

45 V, 6 A Schottky Rectifier Diode

RoHS



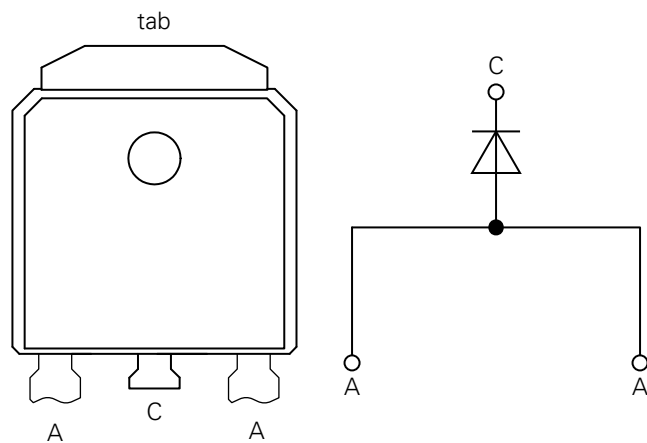
Description

- Very low V_F
- Extremely low switching losses
- Low I_{RM} values
- Improved thermal behavior
- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Terminals finish: 100% Pure Tin
- Epoxy meets UL 94V-0

Applications

- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

Pinout Diagram (TO-252AA)



C: Cathode; **A:** Anode; **tab:** Cathode

Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Characteristics	Condition	Max.	Units
V_{RRM}	Peak Repetitive Reverse Voltage	–	45	V
V_{RWM}	Working Peak Reverse Voltage			
V_R	DC Blocking Voltage			
$I_{F(AV)}$	Average Rectified Forward Current	50% duty cycle @ $T_C = 165^\circ\text{C}$, rectangular wave form	6	A
I_{FSM}	Peak One Cycle Non-Repetitive Surge Current	10 ms, Half Sine pulse, $T_J = 25^\circ\text{C}$	120	A
P_{tot}	Total power dissipation	$T_C = 25^\circ\text{C}$	50	W

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Characteristics	Conditions	Typ.	Max.	Units
V_{F1}	Forward Voltage Drop ¹	@ 6A, Pulse, $T_J = 25^\circ\text{C}$	–	0.63	V
V_{F2}		@ 6A, Pulse, $T_J = 125^\circ\text{C}$	–	0.53	V
I_{R1}	Reverse Current*	@ $V_R = \text{rated } V_R$, $T_J = 25^\circ\text{C}$	–	250	μA
I_{R2}		@ $V_R = \text{rated } V_R$, $T_J = 125^\circ\text{C}$	–	2.5	mA
C_T	Junction Capacitance	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$, $f_{SIG} = 1\text{MHz}$	308	–	pF

Note 1: Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications

Symbol	Characteristics	Condition	Specification	Units
T_J	Junction Temperature	–	-55 to +175	$^\circ\text{C}$
T_O	Operation Temperature	–	-55 to +150	$^\circ\text{C}$
T_{stg}	Storage Temperature	–	-55 to +150	$^\circ\text{C}$
F_C	Mounting force with clip	–	Min 20 Max 60	N
R_{thJC}	Maximum Thermal Resistance Junction to Case	DC operation	3	$^\circ\text{C/W}$
R_{thCS}	Typical Thermal Resistance Case to Heat Sink	–	0.50	$^\circ\text{C/W}$
wt	Approximate Weight	–	0.39	g

Characteristic Curves

Fig. 1. Typical Forward Characteristics

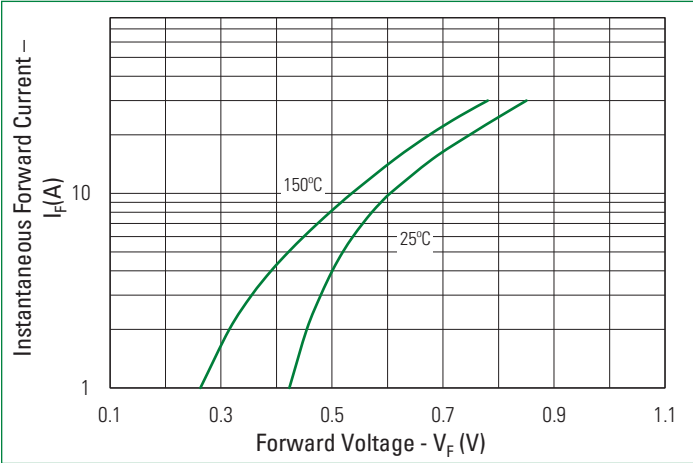


Fig. 2. Typical Reverse Characteristics

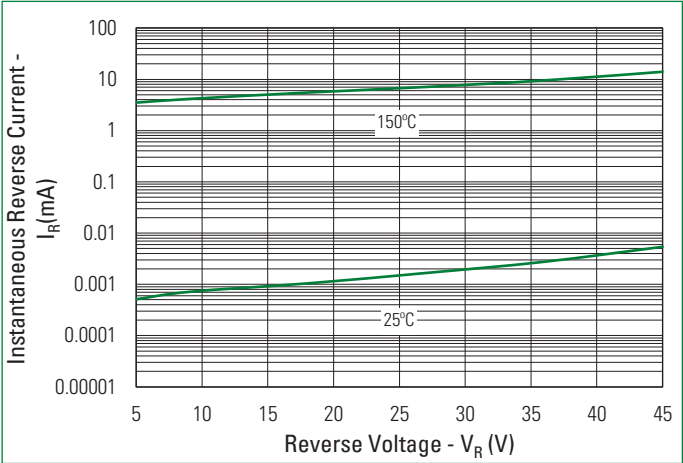
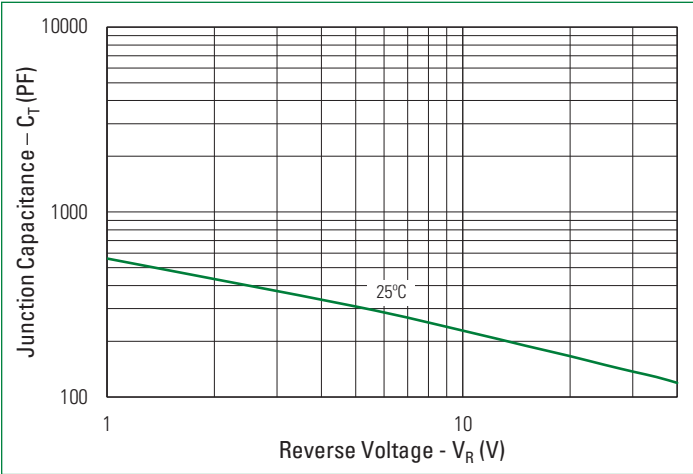


Fig. 3. Typical Junction Capacitance



Technical drawing of a 1206 package showing three views: top, side, and front. Dimensions are indicated as follows:

- Top View:**
 - Overall width: D
 - Inner width: $D1$
 - Overall height: L
 - Inner height: E
 - Distance from top edge to mounting hole: $L3$
 - Mounting hole diameter: $\varnothing$
 - Distance from bottom edge to mounting hole: $L4$
 - Distance from center to mounting hole: e
 - Distance from center to mounting hole: b
- Side View:**
 - Overall height: A
 - Distance from top edge to mounting hole: c
 - Distance from top edge to mounting hole: h
 - Distance from top edge to mounting hole: $A1$
 - Distance from bottom edge to mounting hole: $L2$
- Front View:**
 - Overall width: $D2$
 - Overall height: B
 - Distance from top edge to mounting hole: $L1$

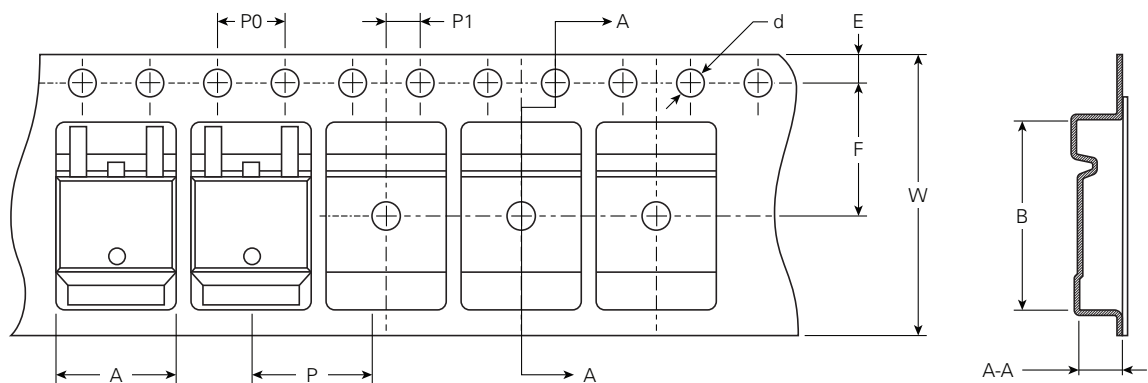
IXYS
DSS6-0045AS
XXXXXX
YYWWS

DS = Schottky Diode
S = Product Generation
6 = Current Rate
0045 = Voltage Rating
AS = Package Code
YY = Year
WW = Work Week
S = Plant Location Code
XXXXXX = Lot Number

Symbol	Inches			Millimeters		
	Min.	Typical	Max.	Min.	Typical	Max
A	0.085	—	0.094	2.18	—	2.39
A1	—	—	0.005	—	—	0.13
b	0.025	—	0.035	0.64	—	0.89
c	0.018	—	0.035	0.46	—	0.89
D	0.250	—	0.264	6.35	—	6.73
D1	0.195	—	0.215	4.95	—	5.46
D2	0.170	—	—	4.32	—	—
E	0.235	0.240	0.245	5.97	6.10	6.22
e	0.090 BSC			2.29 BSC		
L	0.370	—	0.410	9.40	—	10.41
L1	0.114			2.90 REF		
L2	0.055	0.060	0.070	1.40	1.52	1.78
L3	0.063 REF			1.60 REF		
L4	—	—	0.040	—	—	1.02
Ø	0.043	—	0.051	1.10	—	1.30

Part Number	Marking	Packing Mode	M.O.Q
DSS6-0045AS	DSS6-0045AS	Reel (2500 pcs)	–

Carrier Tape Specification (TO-252AA)



Symbol	Inches			Millimeters		
	Min.	Typical	Max.	Min.	Typical	Max.
A	0.267	–	0.276	6.80	–	7.00
B	0.409	–	0.417	10.40	–	10.60
C	0.102	–	0.110	2.60	–	2.80
d	Ø0.057	–	Ø0.065	Ø1.45	–	Ø1.65
E	0.065	–	0.073	1.65	–	1.85
F	0.291	–	0.299	7.40	–	7.60
P0	0.154	–	0.161	3.90	–	4.10
P	0.311	–	0.319	7.90	–	8.10
P1	0.075	–	0.083	1.90	–	2.10
W	0.626	–	0.642	15.90	–	16.30

Disclaimer Notice

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at <http://www.littelfuse.com/disclaimer-electronics>.



Part of:

