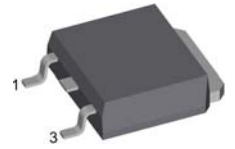
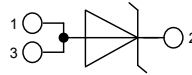


Schottky Diode

High Performance Schottky Diode
 Low Loss and Soft Recovery
 Single Diode

Part number

DSS6-0045AS



Backside: cathode

Features / Advantages:

- Very low V_f
- Extremely low switching losses
- low I_{rm} values
- Improved thermal behaviour
- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching

Applications:

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

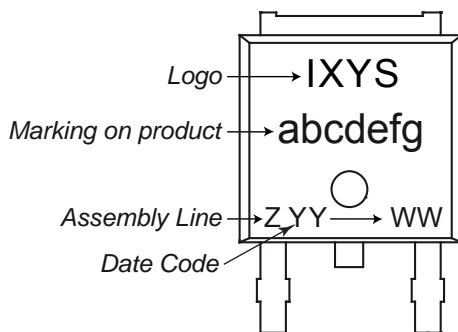
Package:

- Housing: TO-252 (DPak)
- Industry standard outline
- Epoxy meets UL 94V-0
- RoHS compliant

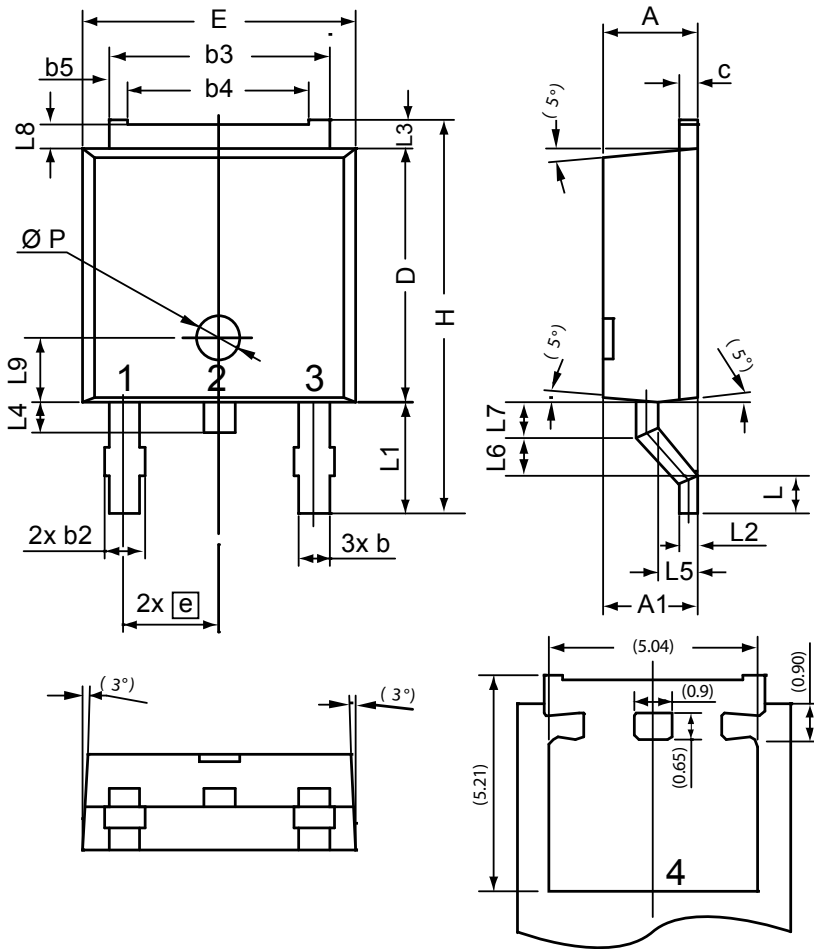
Ratings

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
V_{RRM}	max. repetitive reverse voltage				45	V
I_R	reverse current	$V_R = 45V$			0.3	mA
		$V_R = 45V$			2.5	mA
V_F	forward voltage	$I_F = 6A$			0.63	V
		$I_F = 12A$			0.71	V
		$I_F = 6A$			0.50	V
		$I_F = 12A$			0.59	V
I_{FAV}	average forward current	rectangular d = 0.5			6	A
V_{F0}	threshold voltage				0.35	V
r_F	slope resistance				13.9	mΩ
R_{thJC}	thermal resistance junction to case				3.00	K/W
T_{VJ}	virtual junction temperature		-55		175	°C
P_{tot}	total power dissipation				50	W
I_{FSM}	max. forward surge current	t = 10 ms (50 Hz), sine			80	A
C_J	junction capacitance	$V_R = 5V$; f = 1 MHz		497		pF

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
I_{RMS}	RMS current	per terminal ¹⁾			20	A
R_{thCH}	thermal resistance case to heatsink			0.50		K/W
T_{stg}	storage temperature		-55		150	°C
Weight				0.3		g
F_c	mounting force with clip		20		60	N

Product Marking


Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSS6-0045AS	DSS6-0045AS	Tape & Reel	2500	497878

Outlines TO-252 (DPak)


Dim.	Millimeters		Inches	
	min	max	min	max
A	2.20	2.40	0.087	0.094
A1	2.10	2.50	0.083	0.098
b	0.66	0.86	0.026	0.034
b2	-	0.96	-	0.038
b3	5.04	5.64	0.198	0.222
b4	4.34 BSC		0.171 BSC	
b5	0.50 BSC		0.020 BSC	
c	0.40	0.60	0.016	0.024
D	5.90	6.30	0.232	0.248
E	6.40	6.80	0.252	0.268
e	2.10	2.50	0.083	0.098
H	9.20	9.80	0.362	0.386
L	0.55	1.02	0.022	0.040
L1	2.50	2.90	0.098	0.114
L2	0.40	0.60	0.016	0.024
L3	0.50	0.90	0.020	0.035
L4	0.60	1.00	0.024	0.039
L5	0.82	1.22	0.032	0.048
L6	0.79	0.99	0.031	0.039
L7	0.81	1.01	0.032	0.040
L8	0.40	0.80	0.016	0.031
L9	1.50 BSC		0.059 BSC	
Ø P	1.00 BSC		0.039 BSC	

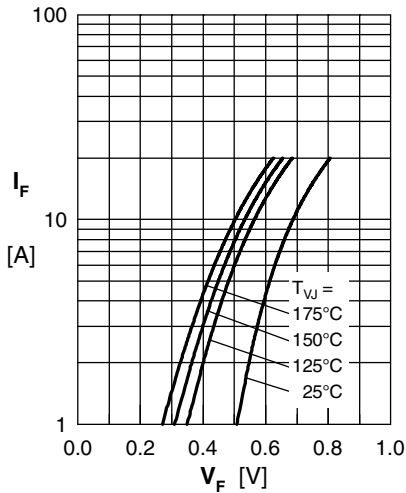


Fig. 1 Maximum forward voltage drop characteristics

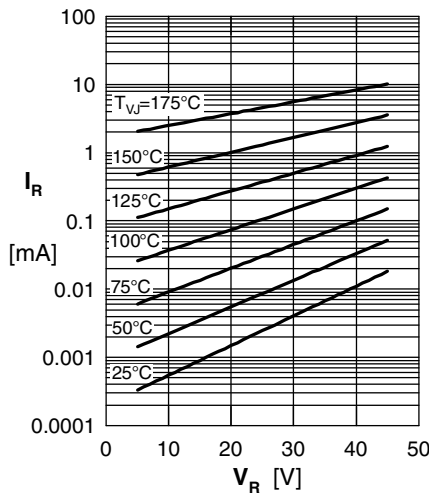


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

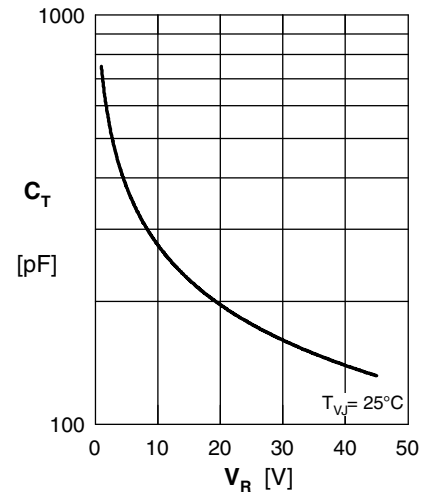


Fig. 3 Typ. junction capacitance C_T vs. reverse voltage V_R

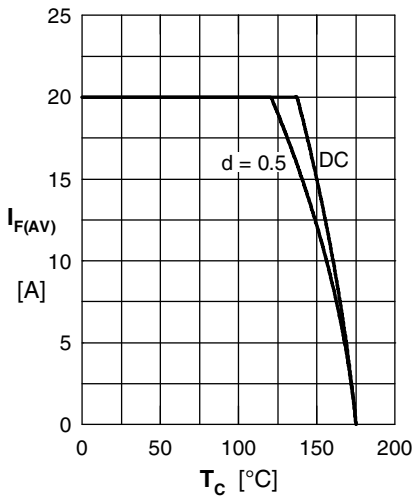


Fig. 4 Average forward current $I_{F(AV)}$ vs. case temperature T_C

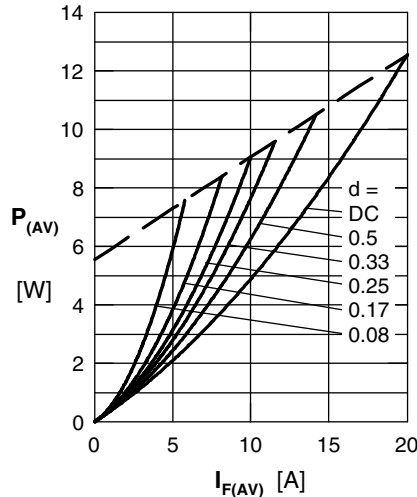


Fig. 5 Forward power loss characteristics

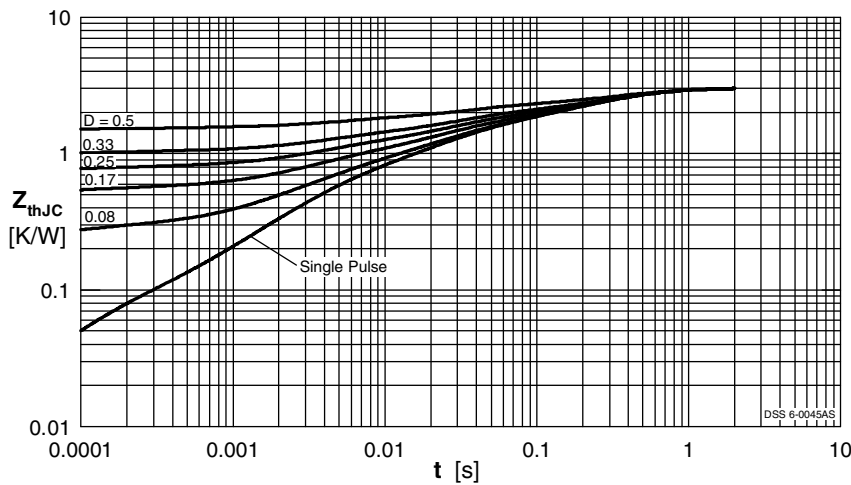


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode