preliminary

Schottky Diode

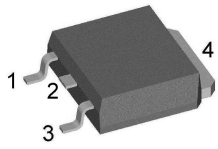
V_{RRM} = 25 V
I_{FAV} = 6 A
V_F = 0.3 V

High Performance Schottky Diode
Low Loss and Soft Recovery
Single Diode

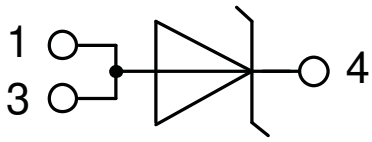
Part number

DSS6-0025BS

Marking on Product: 6Y025AS



Backside: cathode



Features / Advantages:

- Very low Vf
- Extremely low switching losses
- Low Irm 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: TO-252 (DPak)

- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0

Schottky

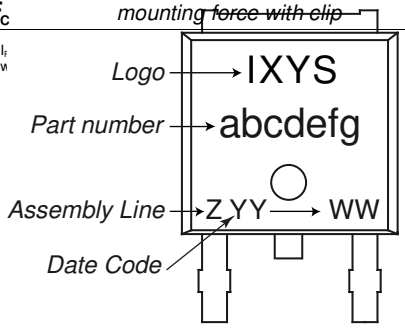
Symbol	Definition	Conditions		Ratings min.	typ.	max.	Unit
V_{RSM}	*max. non-repetitive reverse blocking voltage*		T_{VJ} = 25°C			25	V
V_{RRM}	*max. repetitive reverse blocking voltage*		T_{VJ} = 25°C			25	V
I_R	*reverse current, drain current*	V_R = 25 V	T_{VJ} = 25°C			5	mA
		V_R = 25 V	T_{VJ} = 100°C			40	mA
V_F	*forward voltage drop*	I_F = 6 A	T_{VJ} = 25°C			0.40	V
		I_F = 12 A				0.47	V
		I_F = 6 A	T_{VJ} = 125°C			0.30	V
		I_F = 12 A				0.40	V
I_{FAV}	*average forward current*	T_C = 140°C	T_{VJ} = 150°C			6	A
		rectangular d = 0.5					
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 150°C			0.18	V
r_F	*slope resistance* }					15.9	mΩ
R_{thJC}	*thermal resistance junction to case*					3	K/W
R_{thCH}	*thermal resistance case to heatsink*				0.50		K/W
P_{tot}	*total power dissipation*		T_C = 25°C			40	W
I_{FSM}	*max. forward surge current*	t = 10 ms; (50 Hz), sine; V_R = 0 V	T_{VJ} = 45°C			120	A
C_J	*junction capacitance*	V_R = 5 V f = 1 MHz	T_{VJ} = 25°C		639		pF

Package TO-252 (DPak)			Ratings			
Symbol	**Definition**	**Conditions**	**min.**	**typ.**	**max.**	**Unit**
I_{RMS}	*RMS current*	per terminal [1]			20	A
T_{VJ}	*virtual junction temperature*		-55		150	°C
T_{op}	*operation temperature*		-55		125	°C
T_{stg}	*storage temperature*		-55		150	°C
Weight				0.3		g
F_C	*mounting force with clip*		20		60	N

[1] I
v

of the chip (2). In case of (1) and a pro ct
connecting the pins as one contact.

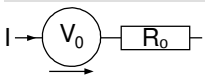
Product Marking



Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSS6-0025BS-TRL	6Y025AS	Tape & Reel	2500	499064
Alternative	DSS6-0025BS-TUB	6Y025AS	Tube	70	525007

Equivalent Circuits for Simulation

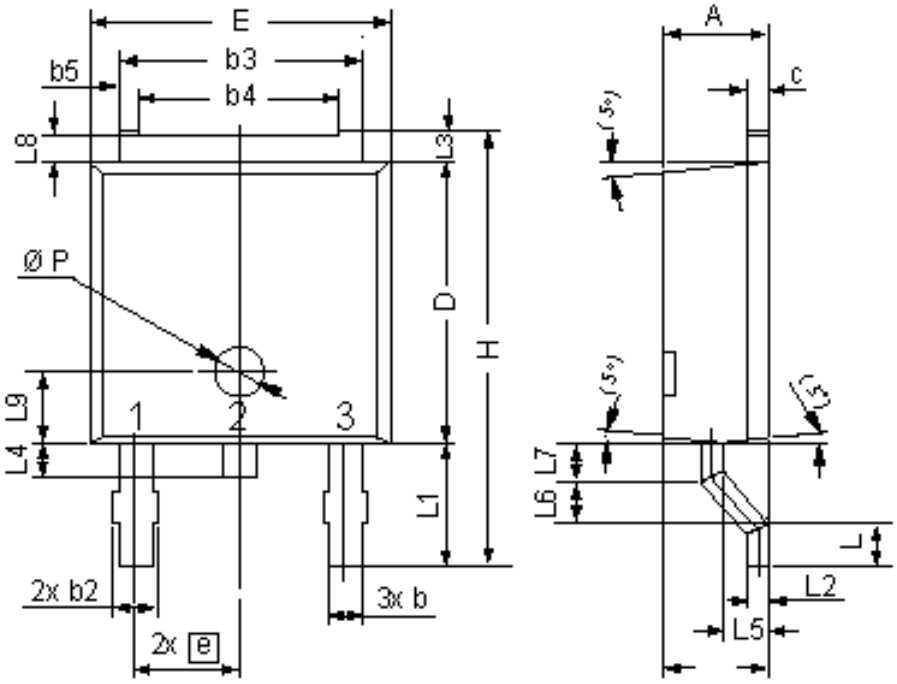
** on die level* T_{VJ} = 150 °C

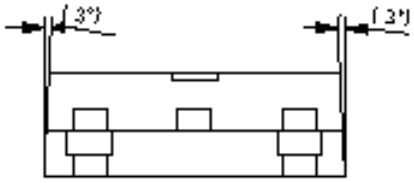


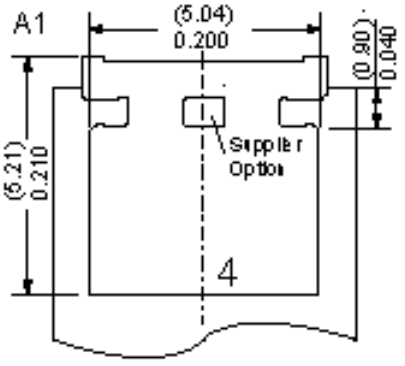
Schottky

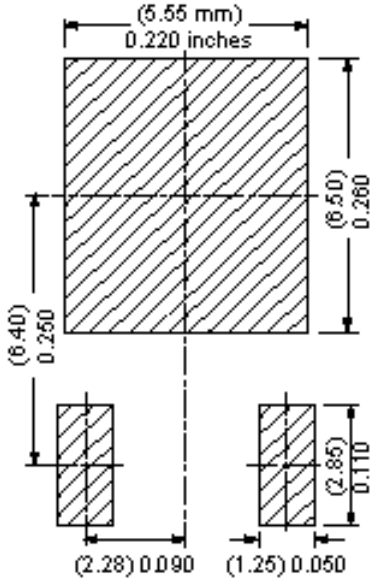
$V_{0\,max}$	*threshold voltage*	0.18	V
$R_{0\,max}$	*slope resistance **	12.8	mΩ

Outlines TO-252 (DPak)









Recommended
min. foot print

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	0.86	0.016	0.034
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	10.10	0.362	0.398
L	0.55	1.28	0.022	0.050
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