preliminary

Schottky Diode Gen ²

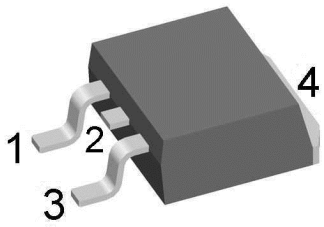
V_{RRM}	=	45 V
I_{FAV}	= 2x	15 A
V_F	=	0.63 V

High Performance Schottky Diode
Low Loss and Soft Recovery
Common Cathode

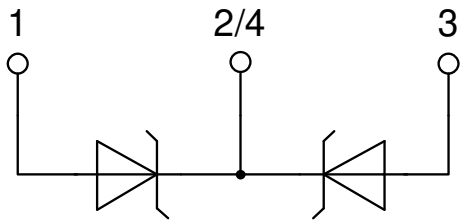
Part number

DSA30C45PC

Marking on Product: DSA30C45PC



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-263 (D2Pak)

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

Disclaimer Notice

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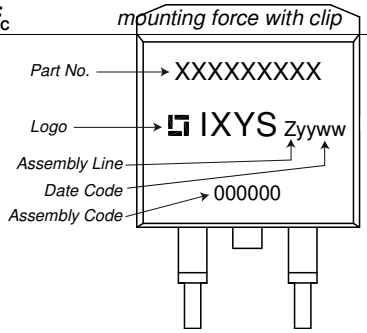
Schottky

Symbol	Definition	Conditions		Ratings min.	typ.	max.	Unit
V_{RSM}	*max. non-repetitive reverse blocking voltage*		T_{VJ} = 25°C			45	V
V_{RRM}	*max. repetitive reverse blocking voltage*		T_{VJ} = 25°C			45	V
I_R	*reverse current, drain current*	V_R = 45 V	T_{VJ} = 25°C			250	µA
		V_R = 45 V	T_{VJ} = 125°C			2.5	mA
V_F	*forward voltage drop*	I_F = 15 A	T_{VJ} = 25°C			0.75	V
		I_F = 30 A				0.91	V
		I_F = 15 A	T_{VJ} = 125°C			0.63	V
		I_F = 30 A				0.79	V
I_{FAV}	*average forward current*	T_C = 155°C	T_{VJ} = 175°C			15	A
		rectangular d = 0.5					
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 175°C			0.42	V
r_F	*slope resistance* }					9.9	mΩ
R_{thJC}	*thermal resistance junction to case*					1.75	K/W
R_{thCH}	*thermal resistance case to heatsink*				0.25		K/W
P_{tot}	*total power dissipation*		T_C = 25°C			85	W
I_{FSM}	*max. forward surge current*	t = 10 ms; (50 Hz), sine; V_R = 0 V	T_{VJ} = 45°C			340	A
C_J	*junction capacitance*	V_R = 5 V f = 1 MHz	T_{VJ} = 25°C		497		pF

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preliminary

Package TO-263 (D2Pak)			Ratings			
Symbol	**Definition**	**Conditions**	**min.**	**typ.**	**max.**	**Unit**
I_{RMS}	*RMS current*	per terminal			35	A
T_{VJ}	*virtual junction temperature*		-55		175	°C
T_{op}	*operation temperature*		-55		150	°C
T_{stg}	*storage temperature*		-55		150	°C
Weight				2		g
F_C	*mounting force with clip*		20		60	N



Part description

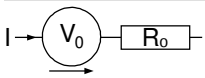
D = Diode
S = Schottky Diode
A = low VF
30 = Current Rating [A]
C = Common Cathode
45 = Reverse Voltage [V]
PC = TO-263AB (D2Pak) (2)

Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSA30C45PC-TRL	DSA30C45PC	Tape & Reel	800	512243
Alternative	DSA30C45PC-TUB	DSA30C45PC	Tube	50	523682

Similar Part	Package	Voltage class
DSA30C45PB	TO-220AB (3)	45
DSA30C45HB	TO-247AD (3)	45

Equivalent Circuits for Simulation

** on die level* T_{VJ} = 175 °C

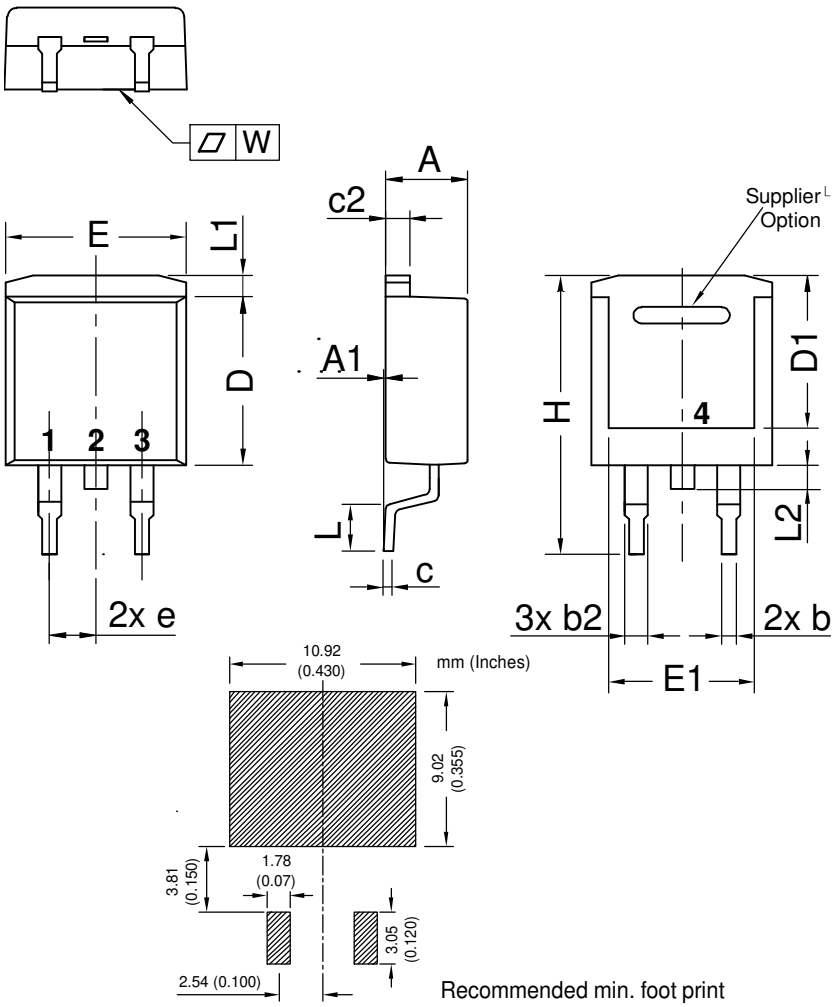


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$V_{0\,max}$	*threshold voltage*	0.42	V
$R_{0\,max}$	*slope resistance **	6.7	mΩ

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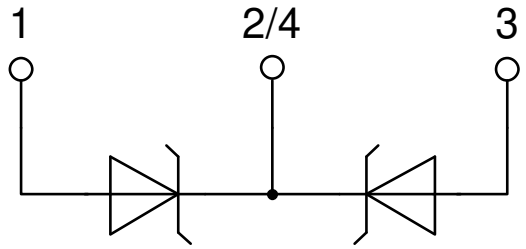
Outlines TO-263 (D2Pak)



Recommended min. foot print

Dim.	Millimeter		Inches	
	min	max	min	max
A	4.06	4.83	0.160	0.190
A1	typ. 0.10		typ. 0.004	
A2	2.41		0.095	
b	0.51	0.99	0.020	0.039
b2	1.14	1.40	0.045	0.055
c	0.40	0.74	0.016	0.029
c2	1.14	1.40	0.045	0.055
D	8.38	9.40	0.330	0.370
D1	8.00	8.89	0.315	0.350
D2	2.5		0.098	
E	9.65	10.41	0.380	0.410
E1	6.22	8.50	0.245	0.335
e	2,54 BSC		0,100 BSC	
e1	4.28		0.169	
H	14.61	15.88	0.575	0.625
L	1.78	2.79	0.070	0.110
L1	1.02	1.68	0.040	0.066
W	typ. 0.02	0.040	typ. 0.0008	0.002

All dimensions conform with and/or within JEDEC standard.



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