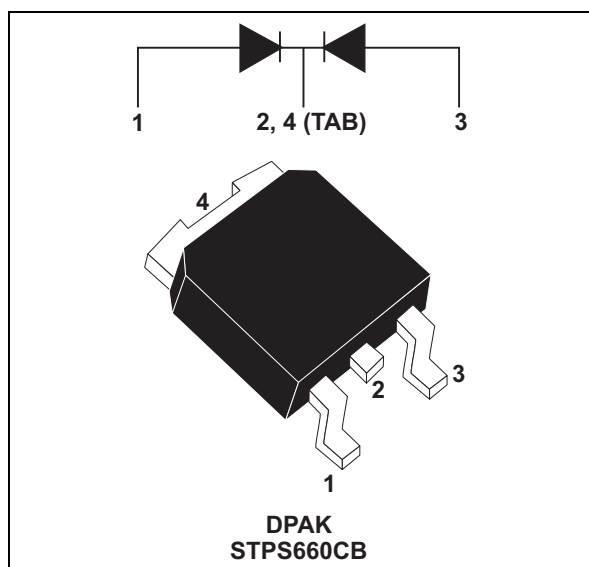


Power Schottky rectifier

Datasheet - production data



Description

High voltage dual Schottky rectifier suited to switch mode power supplies and other power converters.

Packaged in DPAK, this device is intended for use in medium voltage operation, and particularly, in high frequency circuits where low switching losses are required.

Table 1. Device summary

$I_{F(AV)}$	2 x 3 A
V_{RRM}	60 V
$V_{F(max)}$	0.59 V

Features

- Negligible switching losses
- Low forward drop voltage
- Low capacitance
- High reverse avalanche surge capability
- Tape and reel packing

1 Characteristics

Table 2. Absolute ratings (limiting values)

Symbol	Parameter	Value	Unit
V_{RRM}	Repetitive peak reverse voltage	60	V
$I_{F(RMS)}$	RMS forward current	6	A
$I_{F(AV)}$	Average forward current	$T_{case} = 120\text{ }^{\circ}\text{C}$ $\delta = 0.5$	A
I_{FSM}	Surge non repetitive forward current	$t_p = 10\text{ ms}$ Sinusoidal	A
I_{RRM}	Repetitive peak reverse current	$t_p = 2\text{ }\mu\text{s}$ $F = 1\text{ kHz}$	A
T_{stg} T_j	Storage temperature range Maximum junction temperature	-65 to + 150 125	$^{\circ}\text{C}$
dV/dt	Critical rate of rise of reverse voltage	10000	V/ μs

Table 3. Thermal resistances

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case	Per diode	3.5
		Total	2

Table 4. Static electrical characteristics

Symbol	Test conditions	Min.	Typ.	Max.	Unit
$I_R^{(1)}$	Reverse leakage current	$T_j = 25\text{ }^{\circ}\text{C}$	$V_R = 60\text{ V}$	30	μA
		$T_j = 125\text{ }^{\circ}\text{C}$		2.5	mA
$V_F^{(2)}$	Forward voltage drop	$T_j = 25\text{ }^{\circ}\text{C}$	$I_F = 3\text{ A}$	0.65	V
		$T_j = 125\text{ }^{\circ}\text{C}$	$I_F = 3\text{ A}$	0.55	
C	Junction capacitance $V_R = 0\text{ V}$, $F = 1\text{ MHz}$	$T_j = 25\text{ }^{\circ}\text{C}$		815	pF

1. Pulse test: $t_p = 5\text{ ms}$, $\delta < 2\%$

2. Pulse test: $t_{pt} = 380\text{ }\mu\text{s}$, $\delta < 2\%$

To evaluate the maximum conduction losses use the following equation:

$$P = 0.49 \times I_{F(AV)} + 0.035 I_{F(RMS)}^2$$

2 Package information

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK® packages, depending on their level of environmental compliance. ECOPACK® specifications, grade definitions and product status are available at: www.st.com. ECOPACK® is an ST trademark.

- Epoxy meets UL94, V0
- Lead-free package

Figure 1. DPAK dimension definitions

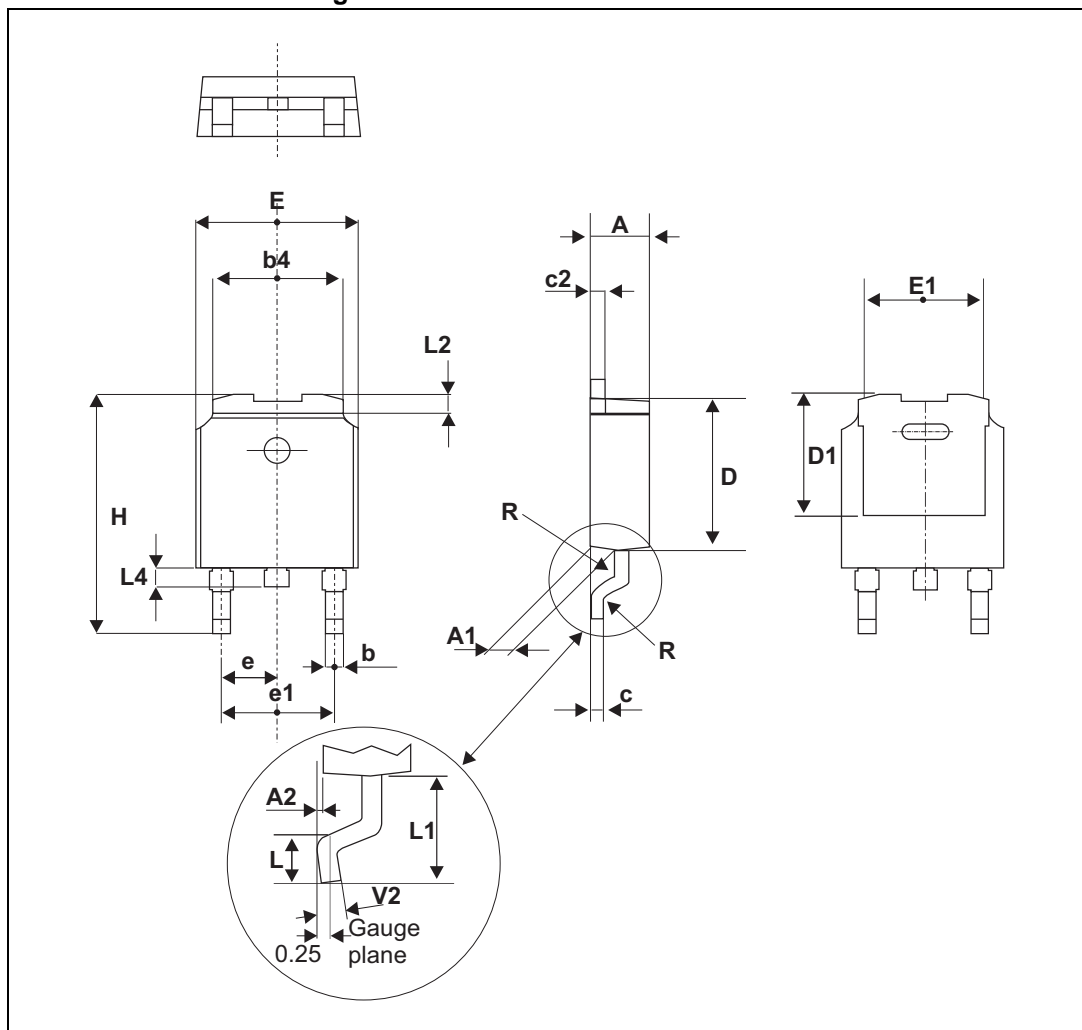
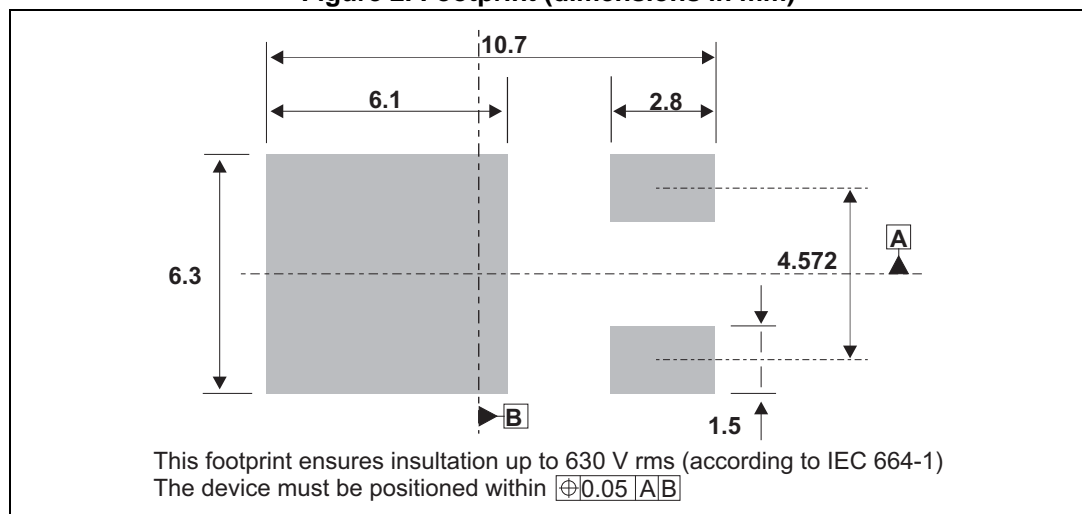


Table 5. DPAK dimension values

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.094
A1	0.90		1.10	0.035		0.043
A2	0.03		0.23	0.001		0.009
b	0.64		0.90	0.025		0.035
b4	5.20		5.40	0.204		0.212
c	0.45		0.60	0.017		0.023
c2	0.48		0.60	0.018		0.023
D	6.00		6.20	0.236		0.244
D1		5.10			0.201	
E	6.40		6.60	0.251		0.259
E1		4.70			0.185	
e		2.28			0.090	
e1	4.40		4.60	0.173		0.181
H	9.35		10.10	0.368		0.397
L	1.00		1.50	0.039		0.059
L1		2.80			0.11	
L2		0.80			0.032	
L4	0.60		1.00	0.023		0.039
R		0.2			0.008	
V2	0°		8°	0°		8°

Figure 2. Footprint (dimensions in mm)



3 Ordering information

Table 6. Ordering information

Type	Marking	Package	Weight	Base qty	Delivery mode
STPS660CB-TR	S6 60C	DPAK	320 mg	2500	Tape and reel

4 Revision history

Table 7. Document revision history

Date	Revision	Changes
Jul-1998	1C	Previous version
18-Oct-2013	2	Updated package footprint graphic.

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