

Schottky Barrier Diode Silicon Epitaxial

# **CUS08F30**

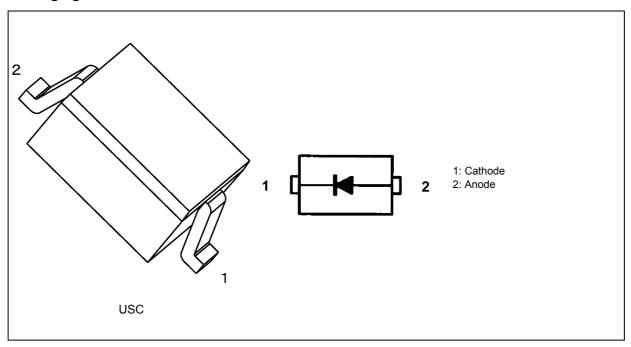
#### 1. Applications

· High-Speed Switching

#### 2. Features

- (1) Low forward voltage:  $V_{F(3)} = 0.40 \text{ V (typ.)}$
- (2) General-purpose USC package, equivalent to SOD-323 and SC-76 packages.

#### 3. Packaging and Internal Circuit



## 4. Absolute Maximum Ratings (Note) (Unless otherwise specified, Ta = 25°C)

Characteristics	Symbol	Note	Rating	Unit
Reverse voltage	V <sub>R</sub>	_	30	V
Average rectified current	I <sub>O</sub>	(Note 1)	800	mA
Non-repetitive peak forward surge current	I <sub>FSM</sub>	(Note 2)	5	Α
Junction temperature	Tj	_	125	°C
Storage temperature	T <sub>stg</sub>	_	-55 to 125	

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Note 1: Mounted on a ceramic circuit board of 25 mm  $\times$  25 mm, Pad dimension of 2 mm  $\times$  2 mm.

Note 2: Measured with a 10 ms pulse.



## 5. Electrical Characteristics (Unless otherwise specified, T<sub>a</sub> = 25°C)

Characteristics	Symbol	Note	Test Condition	Min	Тур.	Max	Unit
Forward voltage	V <sub>F(1)</sub>	_	I <sub>F</sub> = 10 mA	_	0.22	_	V
	V <sub>F(2)</sub>		I <sub>F</sub> = 100 mA	_	0.28	_	
	V <sub>F(3)</sub>		I <sub>F</sub> = 800 mA	_	0.40	0.45	
Reverse current	I <sub>R(1)</sub>		V <sub>R</sub> = 30 V	_	_	50	μА
Total capacitance	Ct	_	V <sub>R</sub> = 0 V, f = 1 MHz	_	170	_	pF

#### 6. Marking

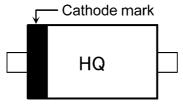


Fig. 6.1 Marking

Marking Code	Part Number		
HQ	CUS08F30		

## 7. Usage Considerations

Schottky barrier diodes (SBDs) have reverse leakage greater than other types of diodes. This makes SBDs
more susceptible to thermal runaway under high-temperature and high-voltage conditions. Thus, both
forward and reverse power losses of SBDs should be considered for thermal and safety design.

## 8. Land Pattern Dimensions for Reference Only

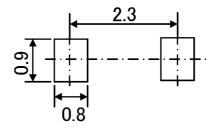


Fig. 8.1 Land Pattern Dimensions for Reference Only (Unit: mm)

## 9. Characteristics Curves (Note)

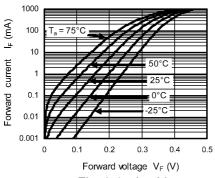


Fig. 9.1 I<sub>F</sub> - V<sub>F</sub>

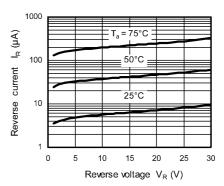


Fig. 9.2 I<sub>R</sub> - V<sub>R</sub>

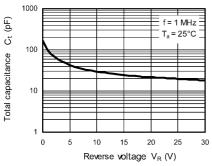


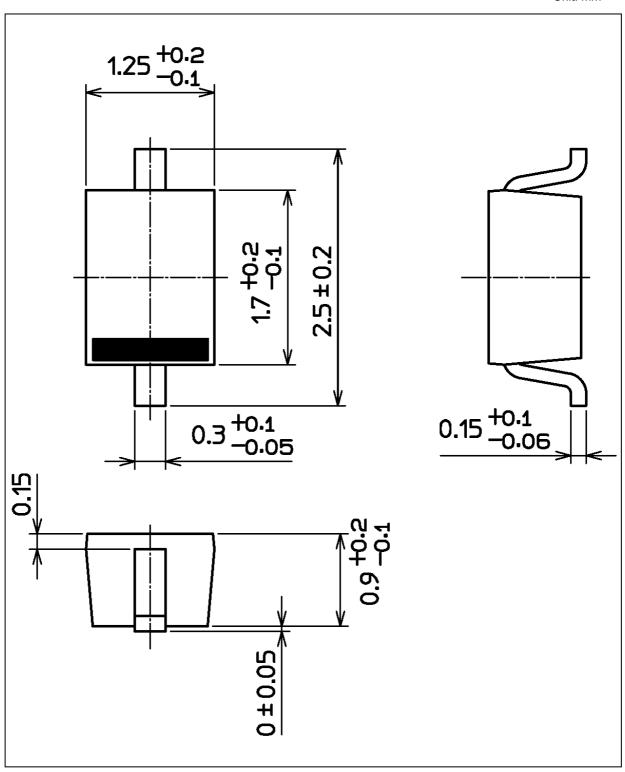
Fig. 9.3 Ct - VR

Note: The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.



# **Package Dimensions**

Unit: mm



Weight: 4.5 mg (typ.)

	Package Name(s)	
Nickname: USC		



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