

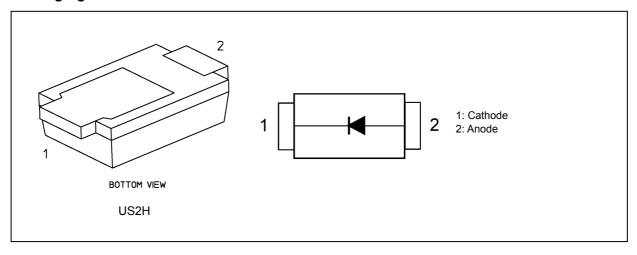
Schottky Barrier Diode Silicon Epitaxial

# **CUHS15F60**

#### 1. Applications

· High-Speed Switching

#### 2. Packaging and Internal Circuit



#### 3. Absolute Maximum Ratings (Note) (Unless otherwise specified, T<sub>a</sub> = 25 °C)

Characteristics	Symbol	Note	Rating	Unit
Reverse voltage	V <sub>R</sub>		60	V
Average rectified current	Io	(Note 1)	1.5	Α
Non-repetitive peak forward surge current	I <sub>FSM</sub>	(Note 2)	10	Α
Junction temperature	Tj		150	°C
Storage temperature	T <sub>stg</sub>		-55 to 150	°C

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 an FR4 board.

 $(25.4 \text{ mm} \times 25.4 \text{ mm} \times 1.6 \text{ mm}, \text{Cu Pad: } 645 \text{ mm}^2)$ 

Note 2: Pulse width 10 ms

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## 4. Electrical Characteristics (Unless otherwise specified, $T_a$ = 25 °C)

Characteristics	Symbol	Note	Test Condition	Min	Тур.	Max	Unit
Forward voltage	V <sub>F</sub> (1)	(Note 1)	I <sub>F</sub> = 500 mA		0.43		V
	V <sub>F</sub> (2)		I <sub>F</sub> = 700 mA		0.48	0.54	
	V <sub>F</sub> (3)		I <sub>F</sub> = 1.0 A		0.55	0.62	
	V <sub>F</sub> (4)		I <sub>F</sub> = 1.5 A		0.66	0.73	
Reverse current	I <sub>R</sub> (1)	(Note 1)	V <sub>R</sub> = 10 V		3		μА
	I <sub>R</sub> (2)		V <sub>R</sub> = 60 V		8	50	
Total capacitance	Ct		V <sub>R</sub> = 0 V, f = 1 MHz	_	130	_	pF

Note 1: Pulse measurement.

#### 5. Marking

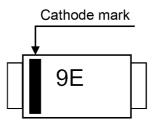


Fig. 5.1 Marking

Marking Code	Part Number		
9E	CUHS15F60		

#### 6. 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.

#### 7. Land Pattern Dimensions (for reference only)

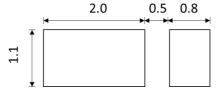


Fig. 7.1 Land Pattern Dimensions for Reference Only (Unit: mm)

Rev.1.0



#### 8. Characteristics Curves (Note)

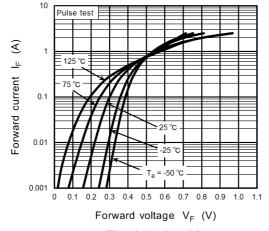


Fig. 8.1 I<sub>F</sub> - V<sub>F</sub>

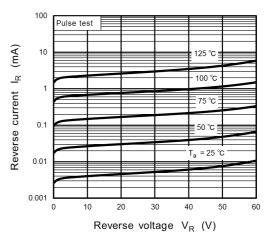


Fig. 8.2 I<sub>R</sub> - V<sub>R</sub>

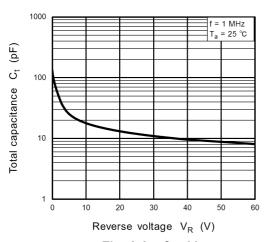


Fig. 8.3 Ct - VR

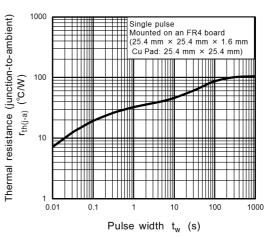


Fig. 8.4 rth - tw

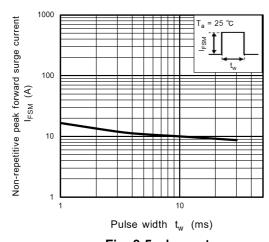


Fig. 8.5  $I_{FSM}$  -  $t_w$ 

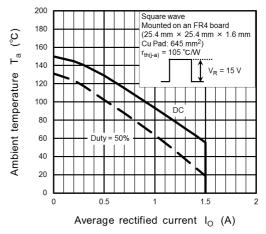


Fig. 8.6 T<sub>a</sub> - I<sub>O</sub>

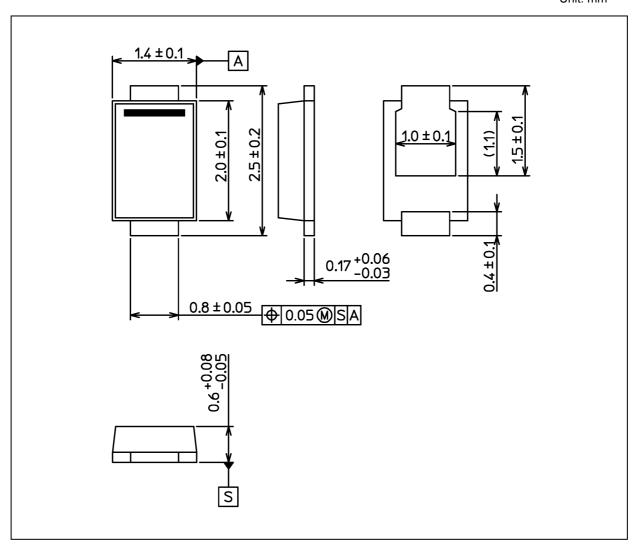
Note: The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

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### **Package Dimensions**

Unit: mm



Weight: 5.4 mg (typ.)

	Package Name(s)
Nickname: US2H	

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