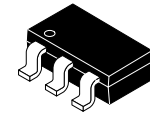


Shottky Barrier Diode, Low VF, Single CPH6

30 V, 3.0 A

SS3003CH

CPH6
CASE 318BD

Features

- Small Switching Noise
- Low Forward Voltage ($I_F = 3\text{ A}$, $V_F \text{ Max} = 0.42\text{ V}$)
- Ultra-small Package Permitting Applied Sets to be Small and Slim
- Halogen Free Compliance
- These are Pb-Free Devices

Applications

- High Frequency Rectification (Switching Regulators, Converters, Choppers)

ABSOLUTE MAXIMUM RATINGS (at $T_A = 25^\circ\text{C}$)

Symbol	Parameter	Conditions	Ratings	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		30	V
V_{RSM}	Nonrepetitive Peak Reverse Surge Voltage		30	V
I_O	Average Output Current		3.0	A
I_{FSM}	Surge Forward Current	50 Hz sine wave, 1 cycle	20	A
T_j	Junction Temperature		-55 to +125	$^\circ\text{C}$
T_{stg}	Storage Temperature		-55 to +125	$^\circ\text{C}$

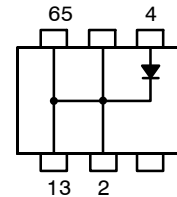
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

ELECTRICAL CHARACTERISTICS (at $T_A = 25^\circ\text{C}$)

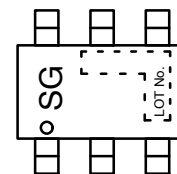
Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_R	Reverse Voltage	$I_R = 2.0\text{ mA}$	30	–	–	V
V_F	Forward Voltage	$I_F = 2.0\text{ A}$	–	0.335	0.385	V
		$I_F = 3.0\text{ A}$	–	0.37	0.42	V
I_R	Reverse Current	$V_R = 15\text{ V}$	–	–	1.4	mA
C	Interterminal Capacitance	$V_R = 10\text{ V}$, $f = 1\text{ MHz}$	–	90	–	pF
t_{rr}	Reverse Recovery Time	$I_F = I_R = 100\text{ mA}$	–	–	20	ns
$R_{th(j-a)}$	Thermal Resistance	When mounted on ceramic substrate ($900\text{ mm}^2 \times 0.8\text{ mm}$)	–	50	–	$^\circ\text{C/W}$

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

ELECTRICAL CONNECTION



MARKING DIAGRAM



ORDERING INFORMATION

Device	Package	Shipping†
SS3003CH-TL-E	CPH6 (Pb-Free)	3 000 / Tape & Reel
SS3003CH-TL-W	CPH6 (Pb-Free, Halide Free)	3 000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, [BRD8011/D](http://www.onsemi.com/BRD8011/D).

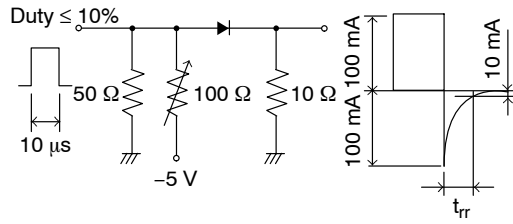


Figure 1. t_{rr} Test Circuit

TYPICAL PERFORMANCE CHARACTERISTICS

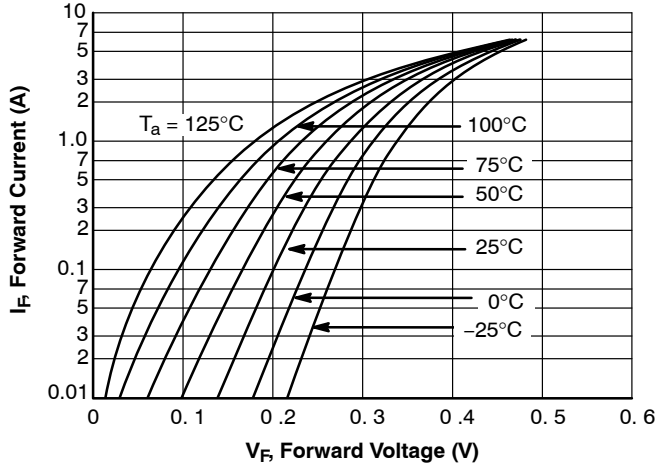


Figure 2. $I_F - V_F$

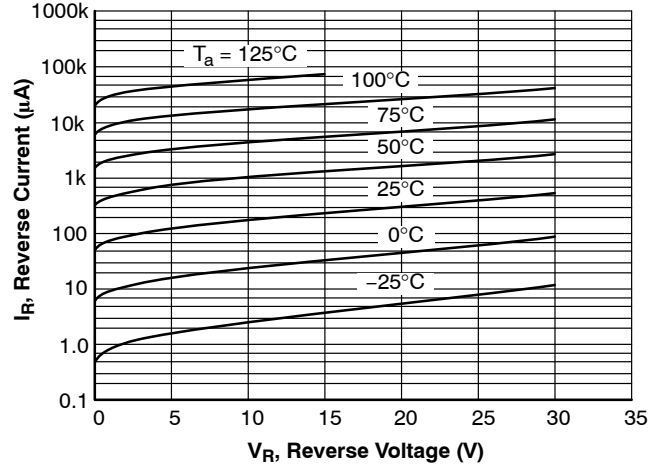


Figure 3. $I_R - V_R$

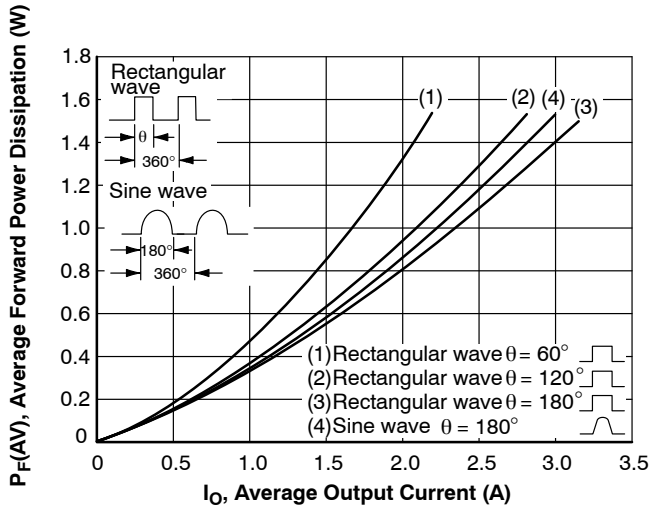


Figure 4. $P_F(AV) - I_O$

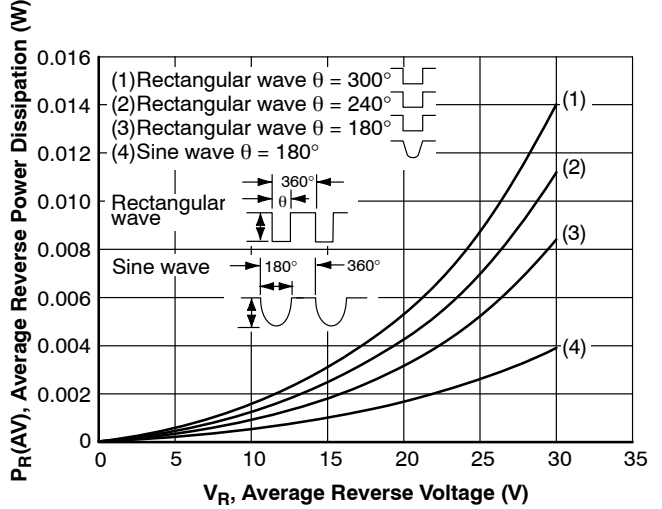


Figure 5. $P_R(AV) - V_R$

TYPICAL PERFORMANCE CHARACTERISTICS (continued)

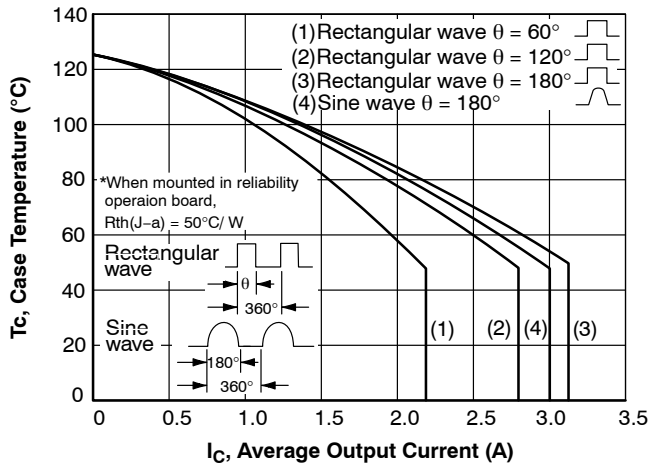


Figure 6. $T_c - I_O$

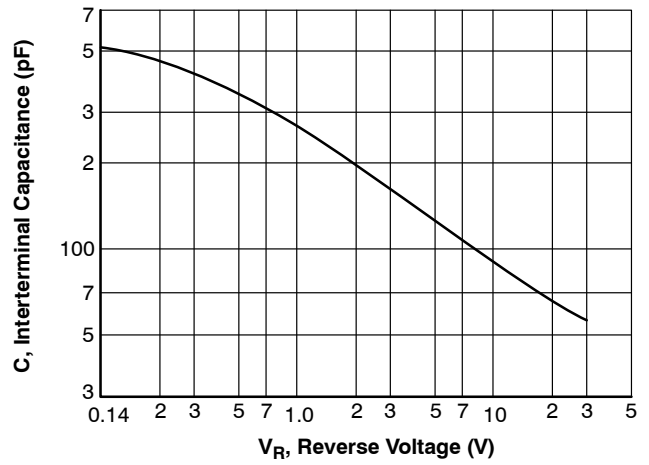


Figure 7. $C - V_R$

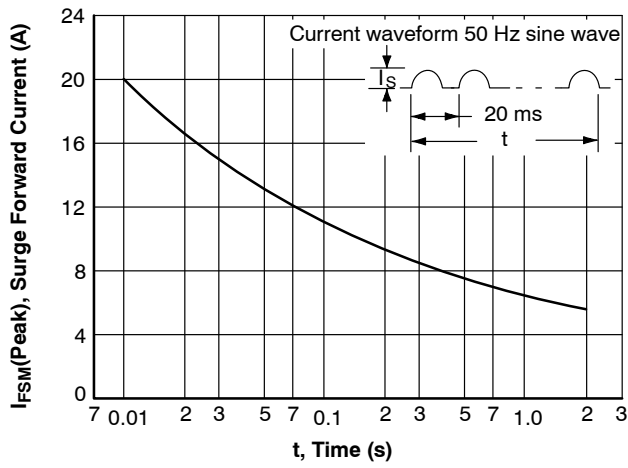
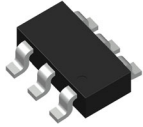
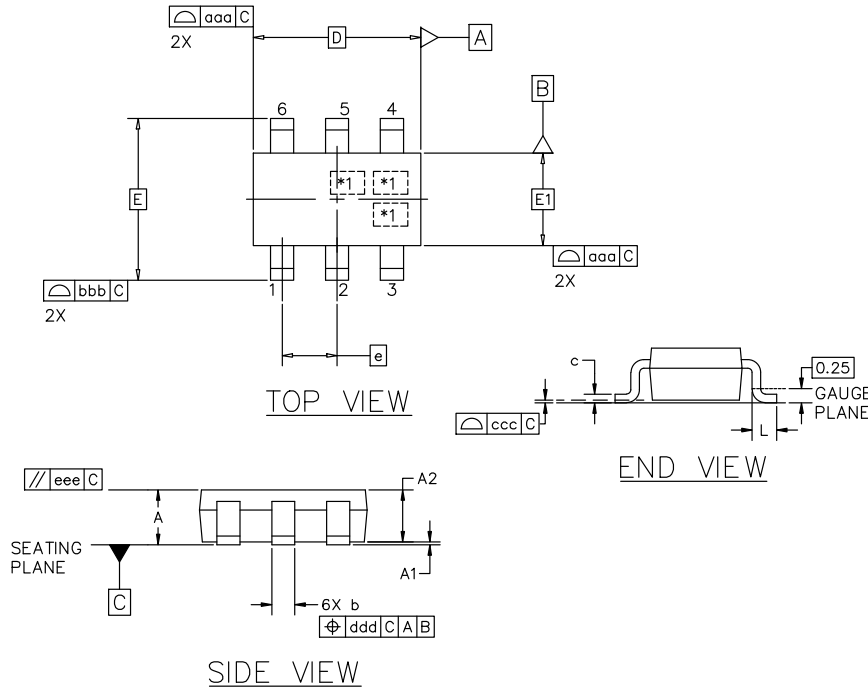


Figure 8. $I_{FSM} - t$



CPH6 2.90x1.60x0.90, 0.95P
CASE 318BD
ISSUE A

DATE 20 SEPT 2024

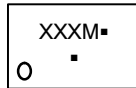


MILLIMETERS			
DIM	MIN	NOM	MAX
A	0.85	0.95	1.05
A1	0.00	0.05	0.10
A2	0.85	0.90	0.95
b	0.30	0.40	0.50
c	0.10	0.15	0.25
D	2.90 BSC		
E	2.80 BSC		
E1	1.60 BSC		
e	0.95 BSC		
L	0.10	0.20	0.30
TOLERANCE FORM AND POSITION			
aaa	0.10		
bbb	0.15		
ccc	0.05		
ddd	0.10		
eee	0.10		

NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2018.
2. CONTROLLING DIMENSION: MILLIMETERS
3. *1 IS FOR LOT INDICATION

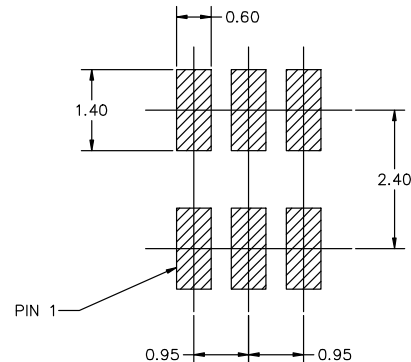
GENERIC
MARKING DIAGRAM*



XXX = Specific Device Code
M = Date Code
▪ = Pb-Free Package

(Note: Microdot may be in either location)

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present. Some products may not follow the Generic Marking.



RECOMMENDED MOUNTING FOOTPRINT

* For additional information on our Pb-Free strategy and soldering details, please download the onsemi Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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DESCRIPTION:	CPH6 2.90x1.60x0.90, 0.95P	PAGE 1 OF 1

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