

US2AA-US2MA

Table 2. ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value								Unit
		US2 AA	US2 BA	US2 DA	US2 FA	US2 GA	US2 JA	US2 KA	US2 MA	
V_{RRM}	Repetitive Peak Reverse Voltage	50	100	200	300	400	600	800	1000	V
V_{RMS}	RMS Reverse Voltage	35	70	140	210	280	420	560	700	V
V_{DC}	DC Blocking Voltage	50	100	200	300	400	600	800	1000	V
$I_{F(AV)}$	Average Forward Rectified Current	1.5								A
I_{FSM}	Peak Forward Surge Current, 8.3 ms Single Half-Sine Wave, Superimposed on Rated Load	50								A
T_J	Operating Junction Temperature Range	-55 to +150								°C
T_{STG}	Storage Temperature Range	-55 to +150								°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.

Table 3. THERMAL CHARACTERISTICS (NOTE 1) (Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$R_{\theta JA}$	Typical Thermal Resistance, Junction-to-Ambient	189	°C/W
Ψ_{JL}	Typical Thermal Characteristics, Junction-to-Lead (with Reference to Cathode Pin)	31	°C/W

1. Device mounted at minimum pad.

Table 4. ELECTRICAL CHARACTERISTICS (Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value								Unit	
		US2 AA	US2 BA	US2 DA	US2 FA	US2 GA	US2 JA	US2 KA	US2 MA		
V_F	Maximum Instantaneous Forward Voltage (Note2) at Rated $I_{F(AV)}$	1.0				1.3	1.7				V
I_R	Maximum Reverse Current at Rated V_R	TJ = 25°C								μA	
		TJ = 125°C									
t_{rr}	Maximum Reverse Recovery Time (Note 3)	50				75				ns	
C_J	Typical Junction Capacitance (Note 4)	50				30				pF	

2. Pulse test with PW = 300 μs, 1% duty cycle

3. Reverse recovery test conditions: $I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{RR} = 0.25\text{ A}$

4. Measured at 1 Mhz and applied reverse voltage of 4.0 V D.C.

US2AA-US2MA

TYPICAL PERFORMANCE CHARACTERISTICS

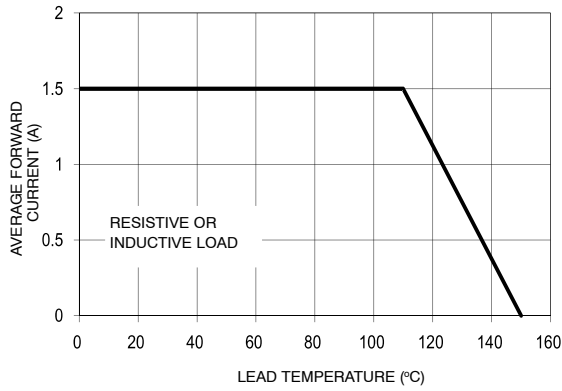


Figure 1. Forward Current Derating Curve

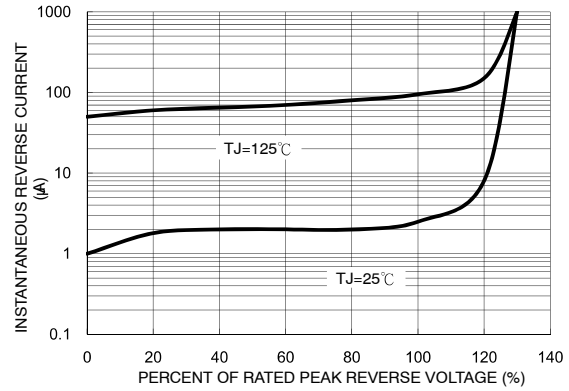


Figure 2. Typical Reverse Characteristics

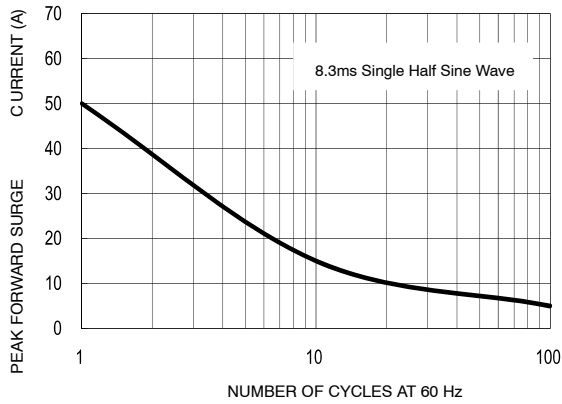


Figure 3. Maximum Non-Repetitive Forward Surge Current

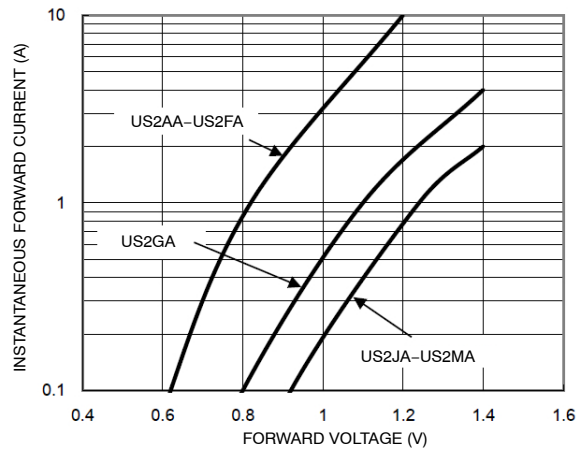


Figure 4. Typical Forward Characteristics

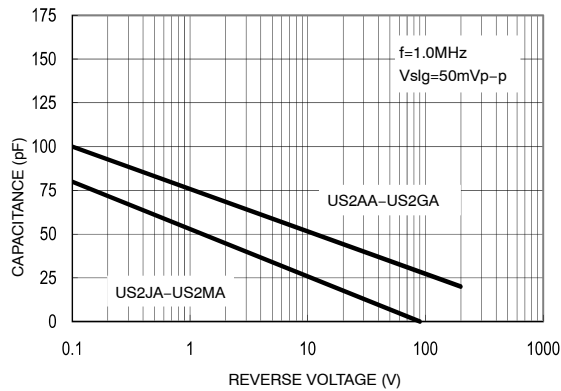


Figure 5. Typical Forward Characteristics

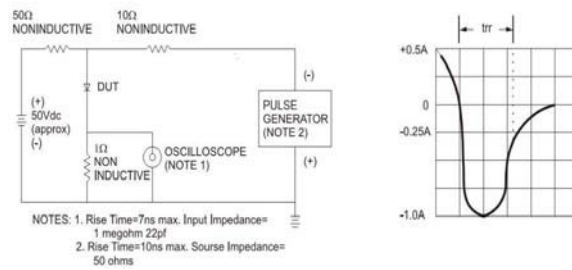


Figure 6. Typical Forward Characteristics

MECHANICAL CASE OUTLINE

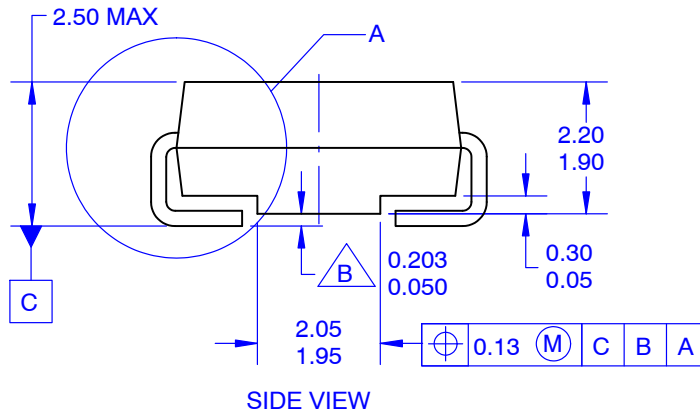
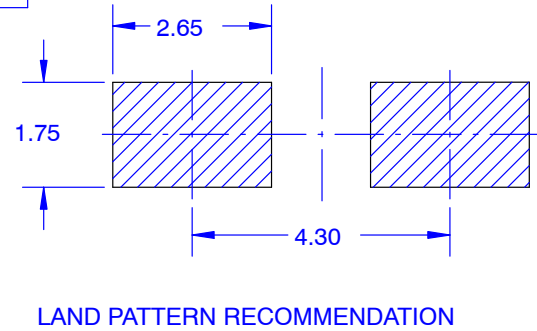
PACKAGE DIMENSIONS

ON Semiconductor®



SMA
CASE 403AE
ISSUE O

DATE 31 AUG 2016



NOTES:

- A. EXCEPT WHERE NOTED, CONFORMS TO JEDEC DO214 VARIATION AC.
- B. DOES NOT COMPLY JEDEC STANDARD VALUE.
- C. ALL DIMENSIONS ARE IN MILLIMETERS.
- D. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
- E. DIMENSIONS AND TOLERANCE AS PER ASME Y14.5-2009.
- E. LAND PATTERN STD. DIOM5025X231M



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