

**FEATURES**

- Glass passivated chip junction
- Ideal for automated placement
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power losses
- High forward surge capability
- Meets MSL level 1, per J-STD-020C
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEE 2002/96/EC

**Mechanical Data****Case:** DO-214AA (SMB)

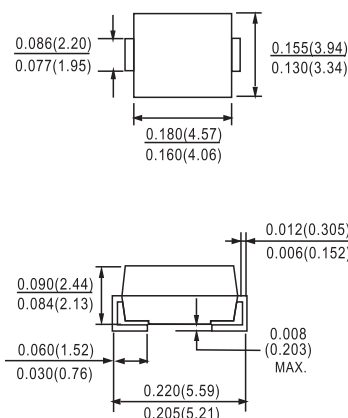
Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

**Polarity:** Color band denotes cathode end

DO-214AA(SMB)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS****Maximum Ratings** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise specified)

Parameters	Symbol	USB260	Unit
Device marking code		U60	
Maximum repetitive peak reverse voltage	$V_{RRM}$	600	V
Maximum RMS voltage	$V_{RMS}$	420	V
Maximum DC blocking voltage	$V_{DC}$	600	V
Maximum average forward rectified current (see Fig. 1)	$I_{F(AV)}$	2.0	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	90	A
Non-repetitive avalanche energy at $I_{AS} = 2.0\text{ A}$ , $L = 10\text{ mH}$ , $T_J = 25\text{ }^\circ\text{C}$	$E_{AS}$	20	mJ
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to + 150	$^\circ\text{C}$

**Electrical Characteristics** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise specified)

Parameters	Test condition	Symbol	Typ.	Max.	Unit
Breakdown voltage	at $I_R = 10\text{ }\mu\text{A}$ $T_J = 25\text{ }^\circ\text{C}$	$V_{(BR)}$	600 (minimum)		V
Instantaneous forward voltage <sup>(1)</sup>	at $I_F = 1\text{ A}$ $T_J = 25\text{ }^\circ\text{C}$	$V_F$	1.25	-	V
	at $I_F = 2.0\text{ A}$ $T_J = 25\text{ }^\circ\text{C}$		1.5	1.6	
	$T_J = 125\text{ }^\circ\text{C}$		1.0	1.1	
Maximum reverse current <sup>(1)</sup>	at $V_R = 600\text{ V}$ $T_J = 25\text{ }^\circ\text{C}$ $T_J = 125\text{ }^\circ\text{C}$	$I_R$	- 30	5.0 100	$\mu\text{A}$
Maximum reverse recovery time	$I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{rr} = 0.25\text{ A}$	$t_{rr}$	30		ns
Typical junction capacitance	at 4.0 V, 1 MHz	$C_J$	45		pF

**Thermal Characteristics** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise specified)

Parameters	Symbol	USB260	Unit
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	45	$^\circ\text{C/W}$
	$R_{\theta JL}$	10	

Notes: (1) Units mounted on P.C.B. with 2.0 x 2.0" copper pad areas

**RATINGS AND CHARACTERISTIC CURVES USB260**

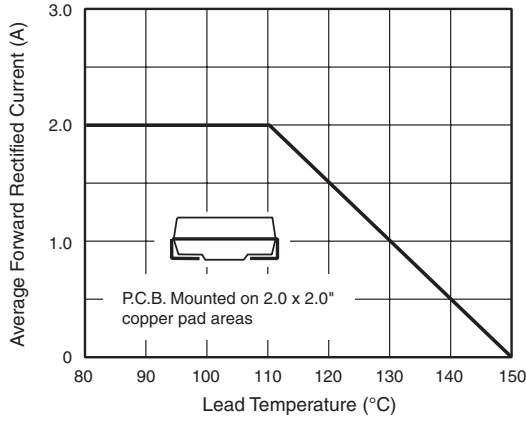


Figure 1. Maximum Forward Current Derating Curve

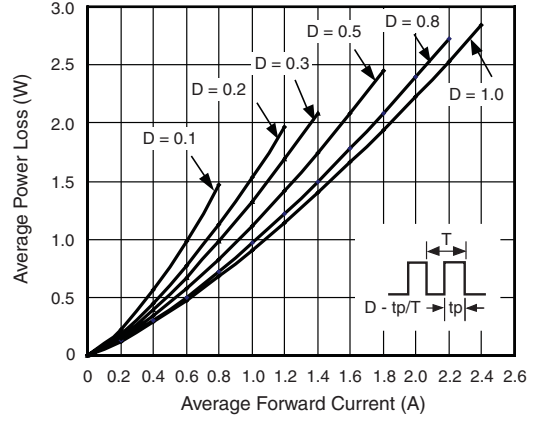


Figure 2. Forward Power Loss Characteristics

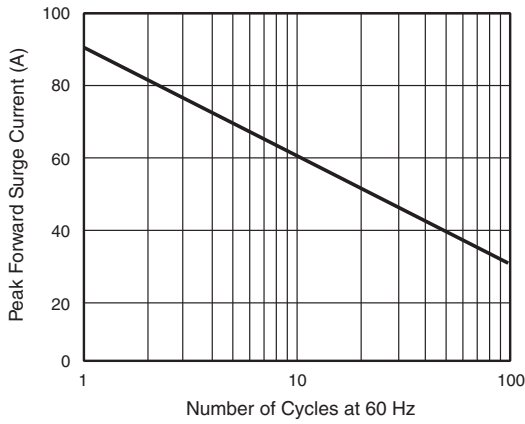


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current

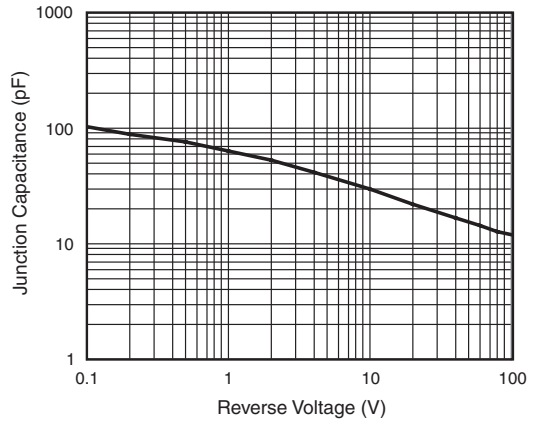


Figure 6. Typical Junction Capacitance

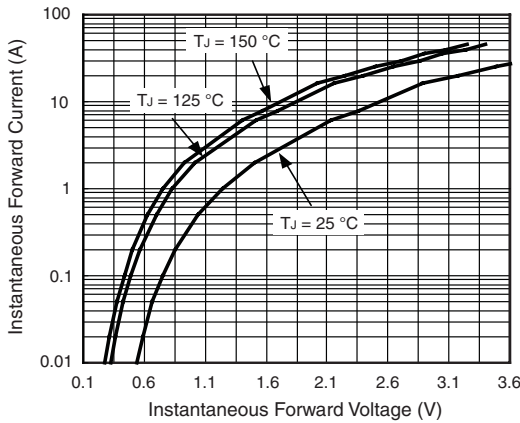


Figure 4. Typical Instantaneous Forward Characteristics

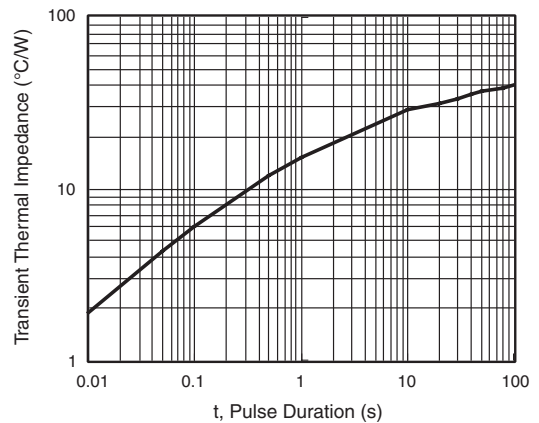


Figure 7. Typical Transient Thermal Impedance