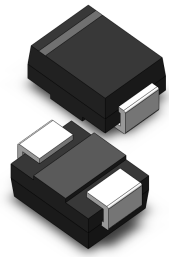
USB260

SURFACE MOUNT ULTRAFAST PLASTIC RECTIFIER

VOLTAGE RANGE: 600 V
CURRENT: 2.0 A



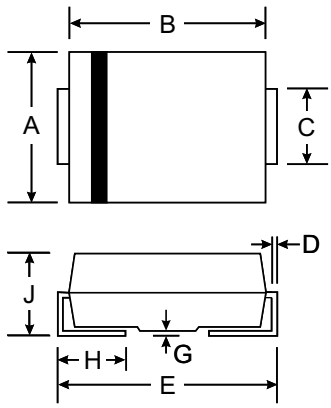
Features

- Glass passivated chip junction
- Ideal for automated placement
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power losses
- High forward surge capability

Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)

RoHS COMPLIANT



SMB(DO-214AA)		
Dim	**Min**	**Max**
A	3.30	3.94
B	4.06	4.70
C	1.91	2.21
D	0.15	0.31
E	5.00	5.59
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics

T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

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 A, L = 10 mH, T_J = 25 °C	E_{AS}	20	mJ
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150	°C

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

Notes: (1) Pulse test: 300 µs pulse width, 1 % duty cycle

Parameters	Symbol	USB260	Unit
Typical thermal resistance (1)	$R_{\theta JA}$	45	°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 Characteristics Curves (T_A = 25 °C unless otherwise noted)

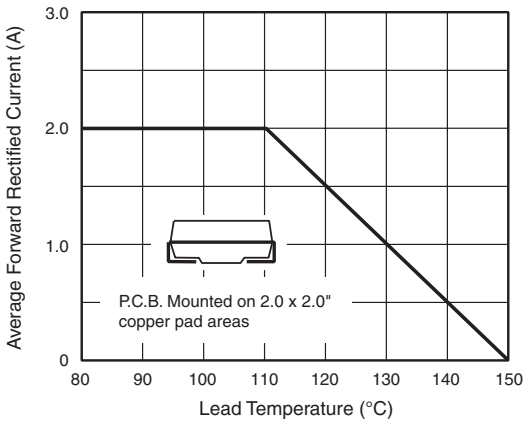


Figure 1. Maximum Forward Current Derating Curve

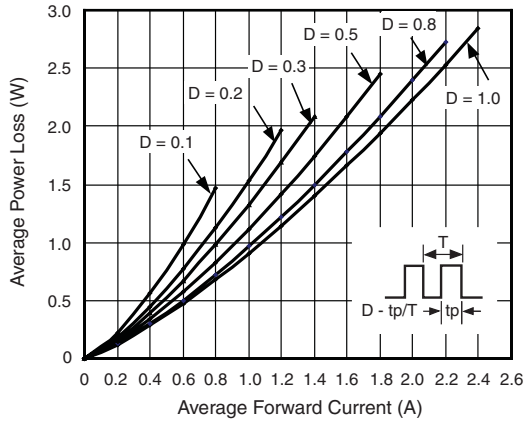


Figure 2. Forward Power Loss Characteristics

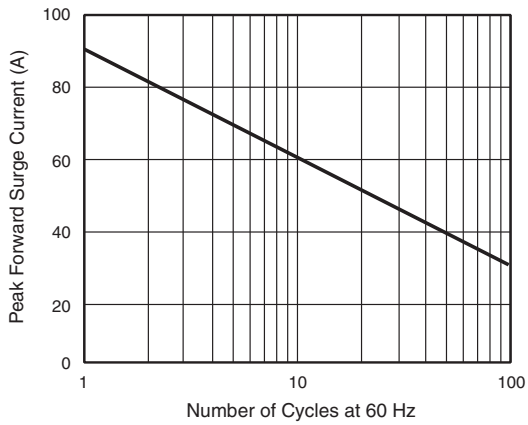


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current

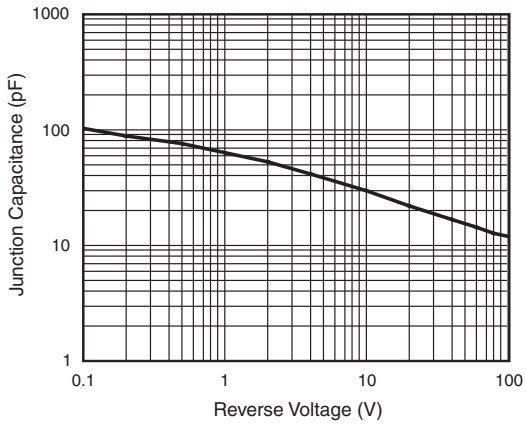


Figure 6. Typical Junction Capacitance

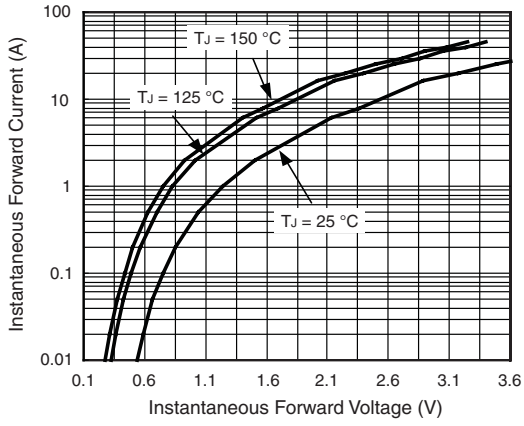


Figure 4. Typical Instantaneous Forward Characteristics

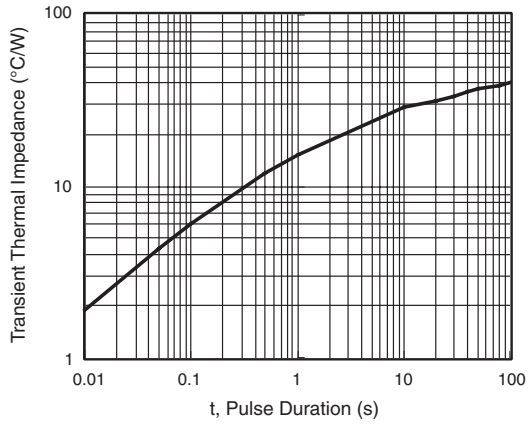


Figure 7. Typical Transient Thermal Impedance