

Features

- Peak power dissipation 200W@10 x 1000 us Pluse
- Peak power dissipation of 1000W under 8/20μs waveform
- Low incremental surge resistance
- Excellent clamping capability
- Fast response time
- Low leakage current
- Halogen free and RoHS compliant

Applications

- Personal digital assistants (PDA)
- Cellular handsets & Accessories
- Handhelds and notebooks
- Portable instrumentation

Mechanical Characteristics

- SOD123 surface mount package



Marking: MK Or 30A



Unipolar

Pin Configuration

Maximum Ratings& Thermal Characteristics(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak pulse power (tp=10/1000μs waveform)	P _{PP}	200	W
Peak pulse power (tp=8/20μs waveform)(Note 2)	P _{PP}	1000	W
DC Power Dissipation @ Ta = 25 °C (Note 3)	P _D	1	W
Storage & operating temperature range(Note 3)	RθJA	325	°C/W
Thermal Resistance, Junction to Lead (Note 3)	RθJL	26	°C/W
Operating Junction Temperature Range	T _J	-55~+150	°C
Storage Temperature Range	T _{STG}	-55~+150	°C

Notes :

- (1) Non-repetitive current pulse at Ta = 25°C, per waveform of Fig. 2
- (2) Non-repetitive current pulse at Ta = 25°C, per waveform of Fig. 3
- (3) Mounted with recommended minimum pad size, DC board FR-4.

Electrical Characteristics (TA=25°C unless otherwise specified)

Part Number	Reverse Stand-Off Voltage	Breakdown Voltage @I _T		Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
	V _{RWM} (V)	V _{BR} MIN.(V)	V _{BR} MAX.(V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (μA)
PDCV300JB	30	33.3	36.8	1	48.4	4.1	1.0

Typical Characteristics Curves

Figure 1. PULSE DERATING CURVE

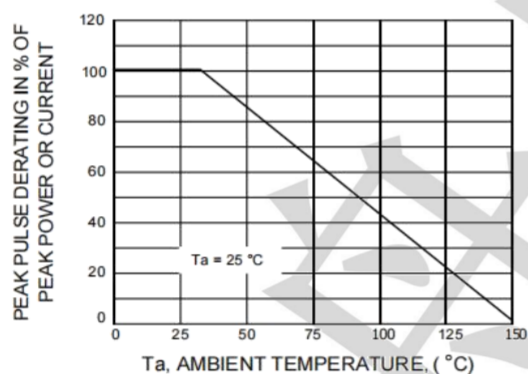


Figure 2. 10 x 1000 μs PULSEWAVEFORM

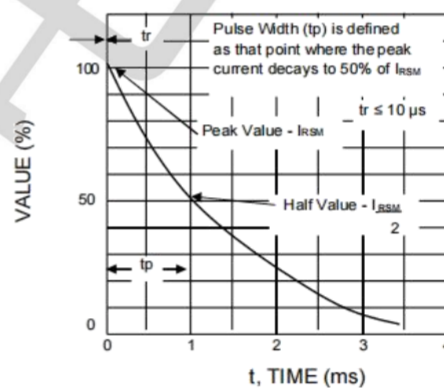


Figure 3. 8 x 20 μs PULSE WAVEFORM

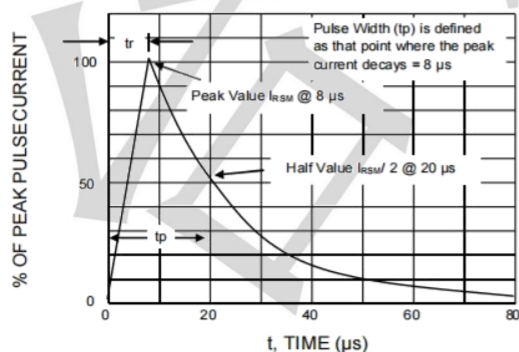
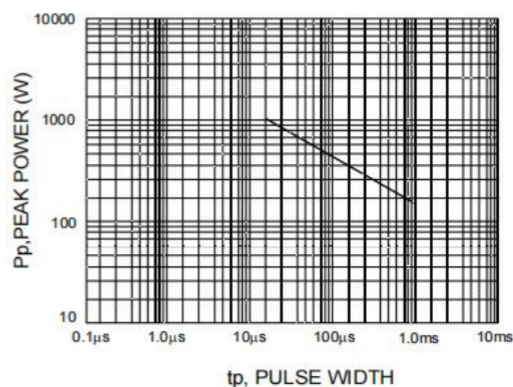
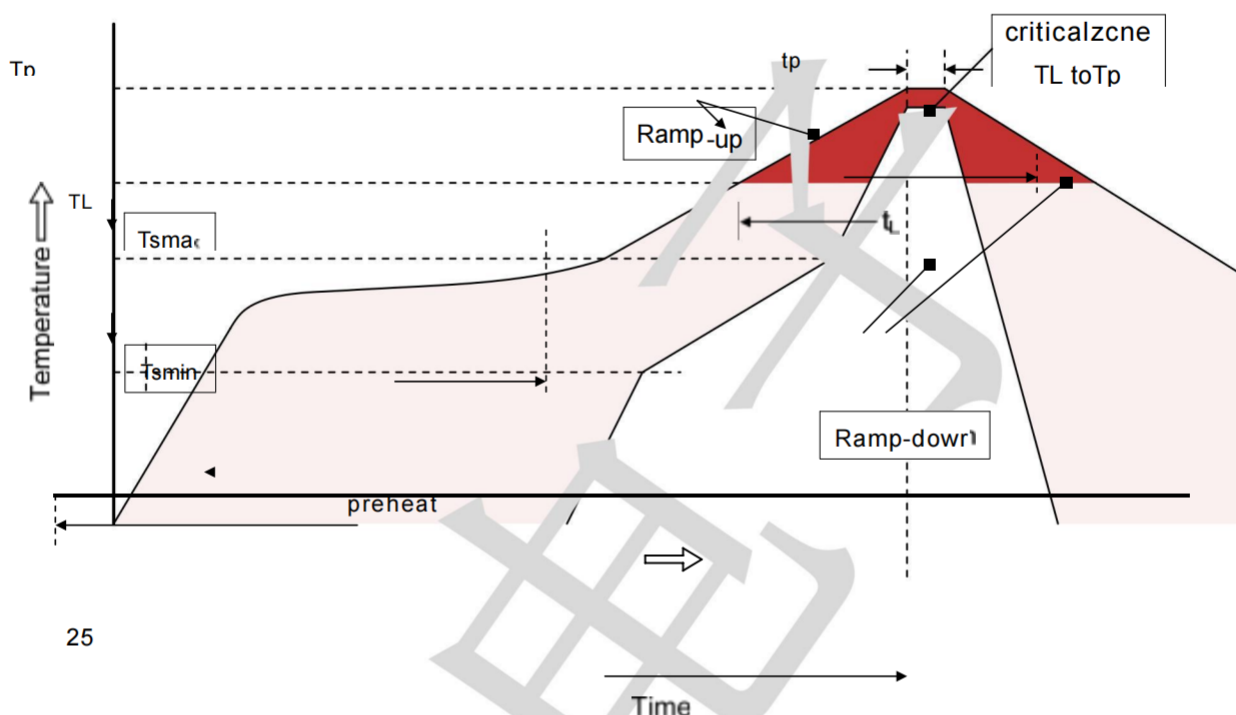


Figure 4. PULSE RATING CURVE



Recommended Soldering Conditions

Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min (T_{Smin})	150°C
-Temperature Max (T_{Smax})	200°C
-Time (min to max) (t_s)	60-180 seconds
T_{Smax} to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

Package Outline Dimensions SOD123

Symbol	Dimension			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.50	3.90	0.138	0.154
B	2.60	3.00	0.102	0.118
C	0.75	1.10	0.030	0.043
D	1.60	2.00	0.063	0.079
E	0.80Typ.		0.031Typ.	
F	0.90	1.40	0.035	0.055
G	0.12	0.22	0.005	0.009