

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
P_{PK}	Peak Pulse Power ($t_p=8/20\mu s$)	500	W
I_{PP}	Peak Pulse Current ($t_p=8/20\mu s$)	10.0	A
T_{OP}	Operating Temperature	-40 to 125	°C
T_{STOR}	Storage Temperature	-55 to 150	°C

Notes:

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the component. This is a stress only rating and operation of the component at these or any other conditions above those indicated in the operational sections of this specification is not implied.

Electrical Characteristics ($T_{OP}=25^{\circ}C$)

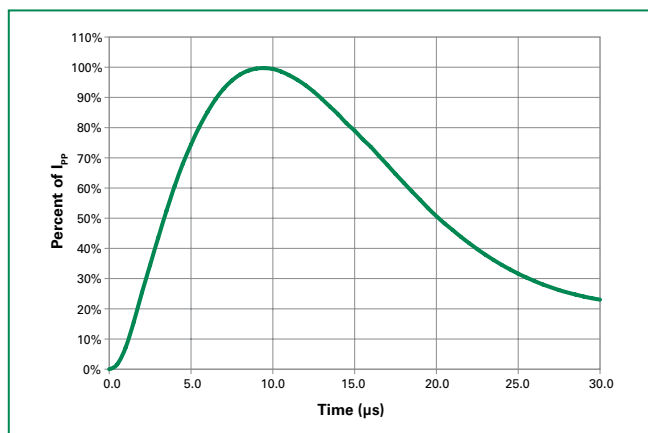
Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Reverse Standoff Voltage	V_{RWM}	$I_R \leq 1\mu A$, Pin 1 or Pin 2 to Pin 3			24.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$, Pin 1 or Pin 2 to Pin 3	26.7			V
Leakage Current	I_{LEAK}	$V_R = 24V$, Pin 1 or Pin 2 to Pin 3			0.1	μA
Clamp Voltage ¹	V_C	$I_{PP}=1A$, $t_p=8/20\mu s$, Pin 1 or Pin 2 to Pin 3			34.0	V
		$I_{PP}=8A$, $t_p=8/20\mu s$, Pin 1 or Pin 2 to Pin 3			46.0	V
		$I_{PP}=10A$, $t_p=8/20\mu s$, Pin 1 or Pin 2 to Pin 3			50	V
Dynamic Resistance ²	R_{DYN}	TLP, $t_p=100ns$, Pin 1 or Pin 2 to Pin 3		0.6		Ω
ESD Withstand Voltage ¹	V_{ESD}	IEC 61000-4-2 (Contact Discharge)	± 30			kV
		IEC 61000-4-2 (Air Discharge)	± 30			kV
Diode Capacitance ¹	$C_{I/O-GND}$	Reverse Bias=0V, $f=1MHz$; Pin 1 or Pin 2 to Pin 3		30		pF

Note:

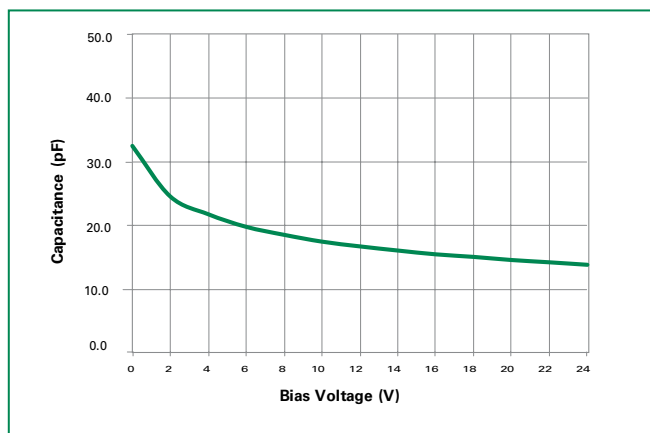
¹ Parameter is guaranteed by design and/or device characterization.

² Transmission Line Pulse (TLP) test setting : Std.TDR(50 Ω), $t_p=100ns$, $t_r=0.2ns$ ITLP and VTLP averaging window: start $t_1=70ns$ to end $t_2=80ns$

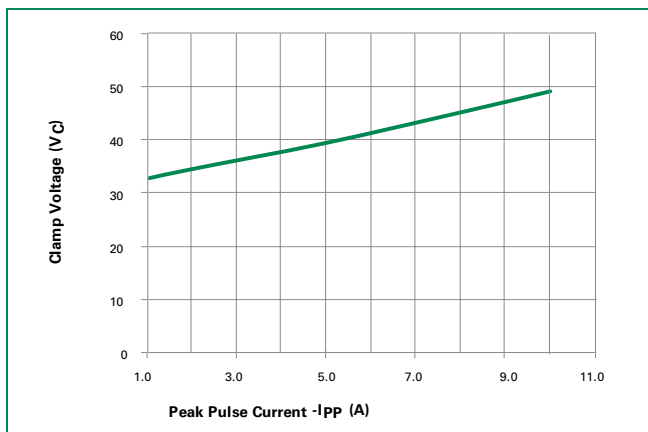
Pulse Waveform



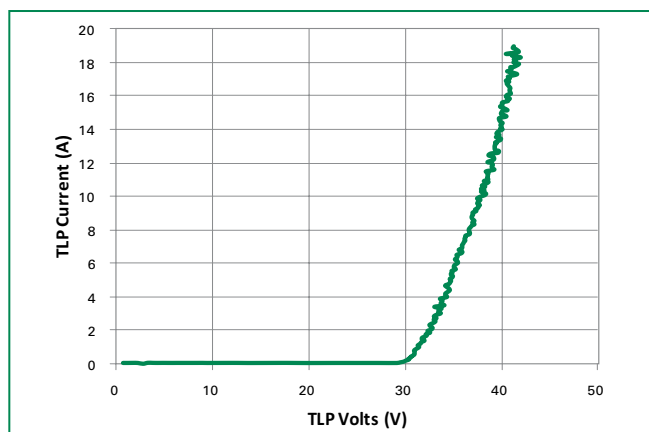
Capacitance vs. Reverse Bias (Pin1 or Pin2 to Pin3)



Clamping Voltage vs. Peak Pulse Current (Pin1 or Pin2 to Pin3)

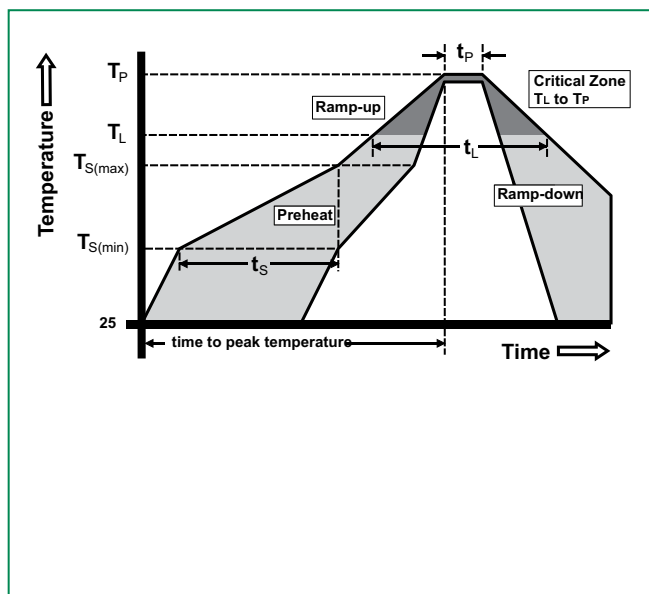


Transmission Line Pulsing (TLP) Plot (Pin1 or Pin2 to Pin3)

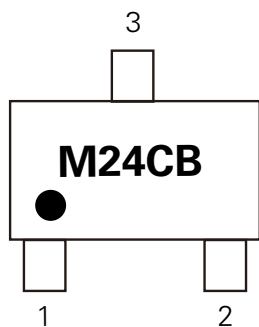


Soldering Parameters

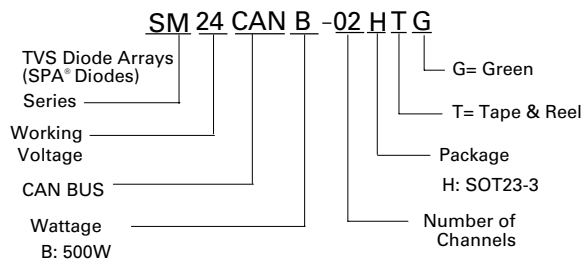
Reflow Condition		Pb – Free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	-Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus) Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260 ^{+0/-5} °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 (T_p)		8 minutes Max.
Do not exceed		260°C



Part Marking System

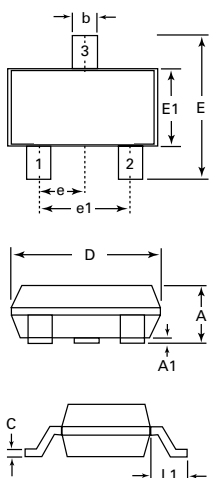


Part Numbering System

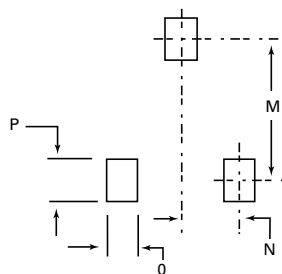


Part Number	Package	Marking	Min. Order Qty.	Packaging Option	P/P0	Packaging Specification
SM24CANB-02HTG	SOT23-3	M24CB	3000	Tape & Reel – 8mm tape/7" reel	4mm/4mm	EIA RS-481

Package Dimensions — SOT23-3

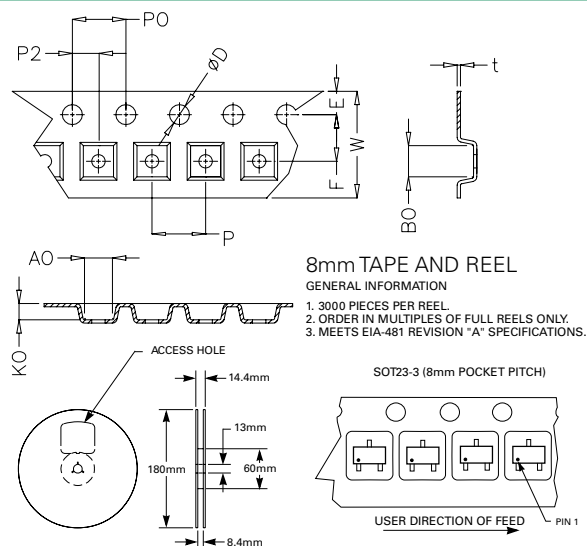


Recommended Pad Layout

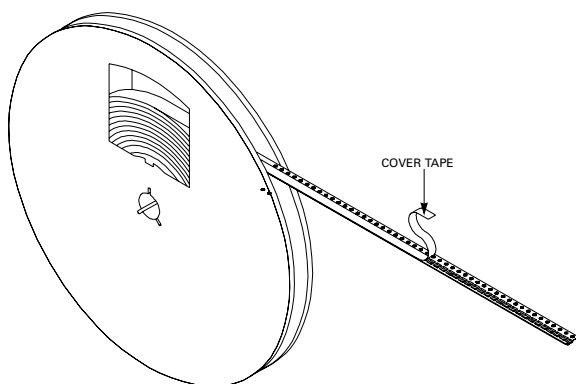


Package	SOT23-3			
Pins	3			
JEDEC	TO-236			
	Millimeters		Inches	
	Min	Max	Min	Max
A	0.89	1.12	0.035	0.044
A1	0.01	0.10	0.0004	0.004
b	0.30	0.50	0.012	0.020
c	0.08	0.2	0.003	0.008
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.083	0.104
E1	1.20	1.40	0.047	0.055
e	0.95 BSC		0.038 BSC	
e1	1.90 BSC		0.075 BSC	
L1	0.54 REF		0.021 REF	
M		2.29		0.090
N		0.95		0.038
O		0.78		0.030TYP
P		0.78		0.030TYP

Embossed Carrier Tape & Reel Specification — SOT23-3



Symbol	Millimetres		Inches	
	Min	Max	Min	Max
E	1.65	1.85	0.065	0.073
F	3.40	3.60	0.134	0.142
P2	1.90	2.10	0.075	0.083
D	1.40	1.60	0.055	0.063
P0	3.90	4.10	0.154	0.161
W	7.70	8.30	0.303	0.327
P	3.90	4.10	0.154	0.161
A0	3.05	3.25	0.120	0.128
B0	2.67	2.87	0.105	0.113
K0	1.12	1.32	0.044	0.052
t	0.22	0.24	0.009	0.009



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