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SM24CANA-02HTG

2-Line bi-directional TVS Diode

www.sot23.com.tw

Features

- ◆ 150W peak pulse power(8/20μs)
- ◆ Ultra low leakage: nA level
- ◆ Operating voltage: 24V
- ◆ Low clamping voltage
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: ±30kV
 - Contact discharge: ±30kV
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 4A (8/20μs)
- ◆ RoHS Compliant

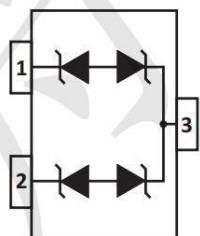
Mechanical Characteristics

- ◆ Package: SOT-23
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: "Green" Molding Compound.
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Moisture Sensitivity: Level 3 per J STD 020
- ◆ Shipping Qty :3000pcs/7Inch Tape & Reel

Applications

- ◆ Cellular Handsets and Accessories
- ◆ Notebooks and Handhelds
- ◆ Portable Instrumentation
- ◆ Set Top Box
- ◆ Industrial Controls
- ◆ CAN Bus Protection
- ◆ Automotive Applications

Dimensions and Pin Configuration



Marking: M24C Or **T24HC**



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Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	140	W
Peak Pulse Current (8/20μs)	I _{PP}	4	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			24	V	
Breakdown Voltage	V _{BR}	26.7			V	I _T = 1mA
Reverse Leakage Current	I _R			0.08	μA	V _{RWM} = 24V
Forward Voltage	V _F		0.8	1.2	V	I _F = 10mA
Clamping Voltage	V _C		32		V	I _{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V _C		35	40	V	I _{PP} = 4A (8 x 20μs pulse)
Junction Capacitance	C _J		10	18	pF	VR=0, f=1MHz, Pin 3to Pin 2,Or Pin 3 to Pin 2
Junction Capacitance	C _J		7		pF	VR=0, f=1MHz, Pin 1 to Pin 2 , Pin 1to Pin 2,Or Pin 2 to Pin1



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Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

Fig1. 8/20 μs Pulse Waveform

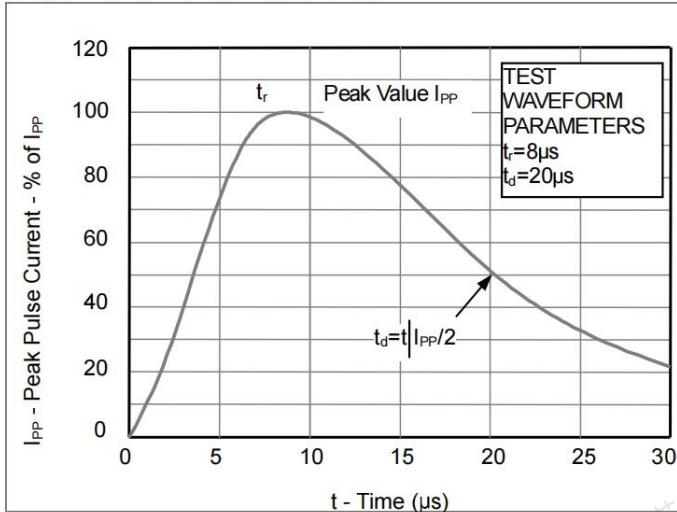


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

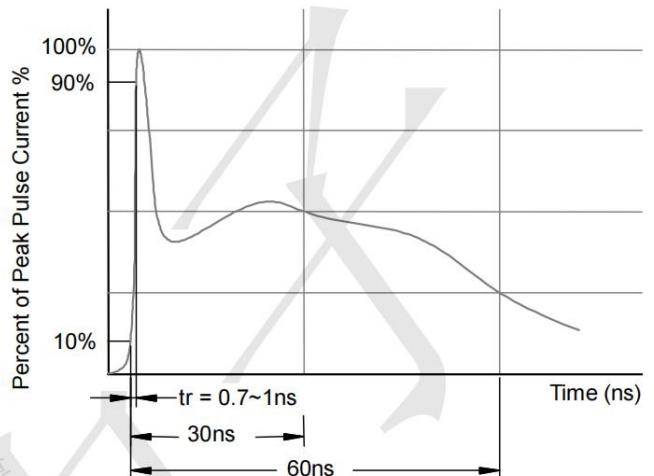
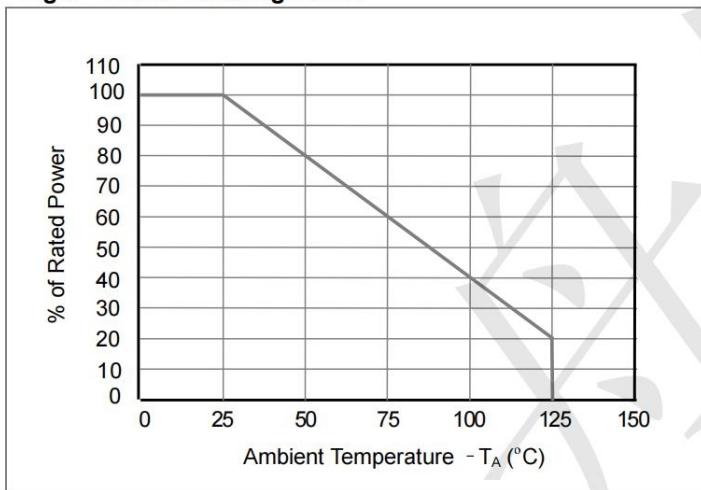


Fig3. Power Derating Curve





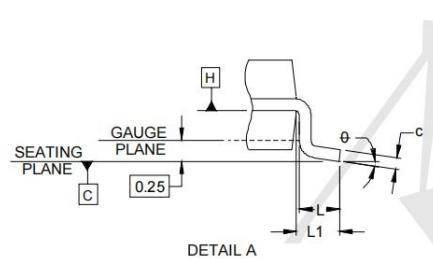
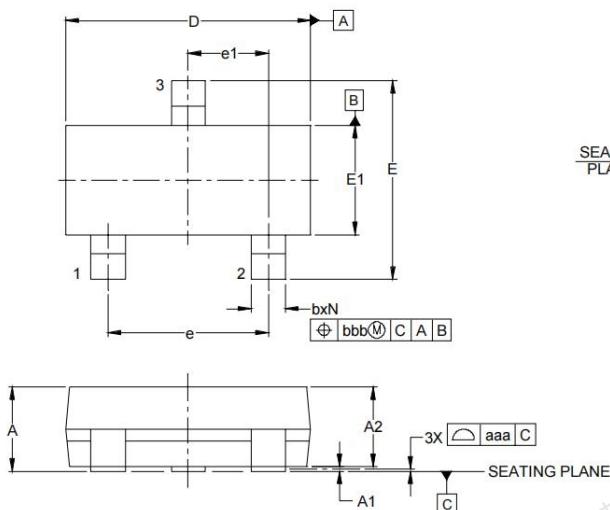
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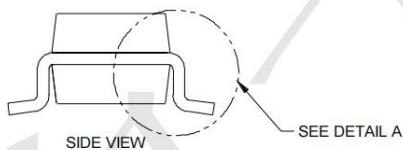
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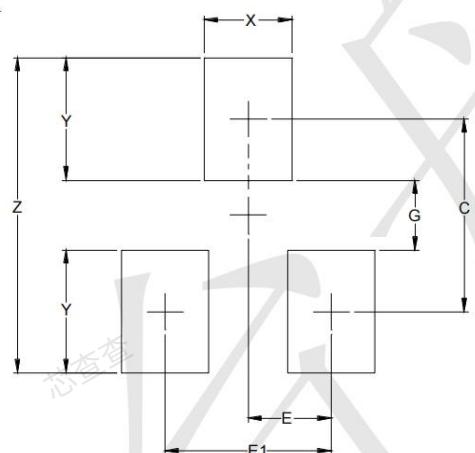
Outline Drawing - SOT23



DIMENSIONS					
DIM	INCHES	MILLIMETERS	MIN	NOM	MAX
			MIN	NOM	MAX
A	.035	.044	.089	.090	.112
A1	.000	.004	.001	-	.10
A2	.035	.040	.088	.095	.102
b	.012	.020	.030	-	.051
c	.003	.007	.008	-	.018
D	.110	.114	.280	.290	.304
E	.082	.093	.210	.237	.264
E1	.047	.051	.120	.130	.140
e	.075	.090	.190	BSC	
e1	.037	.040	.095	BSC	
L	.015	.020	.024	.040	.050
L1	.022	.025	.055		
N	3	3			
θ	0°	8°	0°	-	8°
aaa	.004	.005	.010		
bbb	.008	.009	.020		



Land Pattern - SOT23



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(.087)	(2.20)
E	.037	0.95
E1	.075	1.90
G	.031	0.80
X	.039	1.00
Y	.055	1.40
Z	.141	3.60