



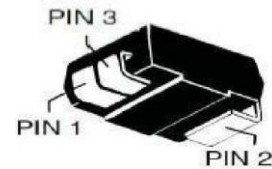
SSCT58V52DC3

Voltage Suppressor TVS Diode

● Description

The SSCT58V52DC3 is transient voltage suppressor diodes, also known as TVS diodes, are protective electronic parts that protect electrical equipment from voltage spikes introduced by wires.

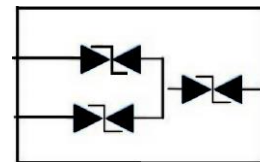
● PIN configuration



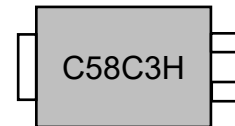
SMC-3

● Features

- ◇ 5000 W peak pulse power ($t_P = 10/1000\mu s$)
- ◇ SMC-3 Package
- ◇ Working voltage: 58V
- ◇ Low profile package and low inductance
Complies
- ◇ Typical IR less than 5uA above 58V
- ◇ Fast response time: typically less than 1.0ps from 0V to VBR min.



Circuit Diagram



Marking (Top View)

● Applications

- ◇ Computer system
- ◇ Domestic appliance
- ◇ Video input
- ◇ For surface mounted applications

● Mechanical Characteristics

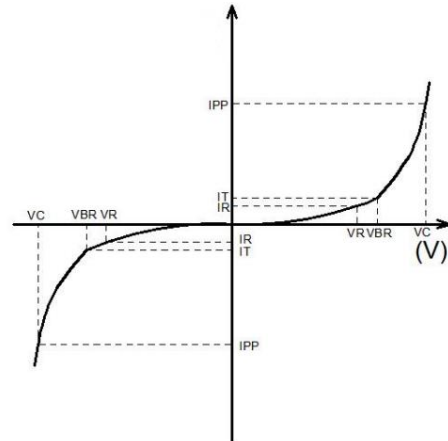
- ◇ Lead finish: 100% matte Sn (Tin)
- ◇ RoHS compliant
- ◇ Case Material: Molding Plastic. UL Flammability Classification Rating 94V-0. RoHS compliant
- ◇ Terminal: Solder plated, solderable per MIL-STD-750, Method 2026.
- ◇ Device meets MSL 1 requirements
- ◇ Polarity: Color band denotes cathode except bi-directional models



SSCT58V52DC3

● Electronic Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C_J	Junction Capacitance



● Absolute maximum rating @ $T_A=25^\circ\text{C}$

Parameter	Symbol	Value	Units
Peak Pulse Power (10/1000 μs)	P_{PP}	5000	W
Steady state power dissipation at $T_L=75^\circ\text{C}$	$P_{M(AV)}$	6.5	W
Peak Pulse Current (10/1000 μs)	I_{PP}	53.5	A
Peak Pulse Current (10/700 μs)	I_{PP}	150	A
Peak Pulse Current (1.2/50 μs)	I_{PP}	700	A
Storage Temperature	T_{STG}	-55/+150	$^\circ\text{C}$
Operating Temperature	T_J	-55/+150	$^\circ\text{C}$

● Electrical Characteristics @ $T_A=25^\circ\text{C}$

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				58	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	64.4		72	V
Reverse Leakage Current	I_R	$V_{RWM} = 58\text{V}$			1	μA
Clamping Voltage	V_C	$I_{PP} = 53.5\text{A}$, $t_P = 10/1000\mu\text{s}$			93.6	V

Notes:

For parts without A (V_{BR} is $\pm 10\%$ and V_C is 5% higher than A parts)

For V_{BR} is measured at $I_T=1\text{mA}$ (Pin1 or 3 to 2, PIN 1 to 3)

For Surg Waveform:10/1000 μs (Pin1 or 3 to2, PIN 1 to 3)

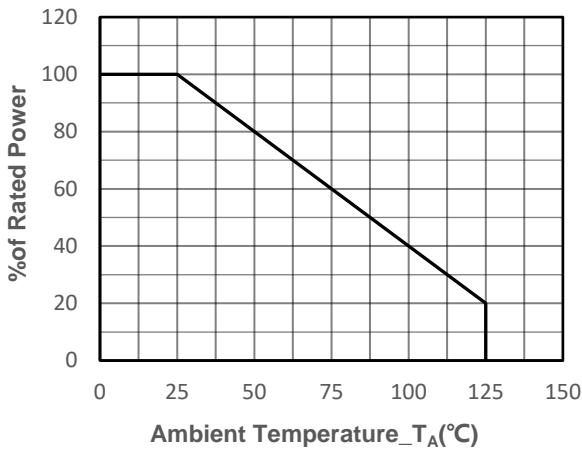
For Surg Waveform:8/20 μs (Pin1 or 3 to 2, PIN1 to 3)

For Surg Waveform:10/700 μs (Pin1or 3 to 2, PIN1 to 3)

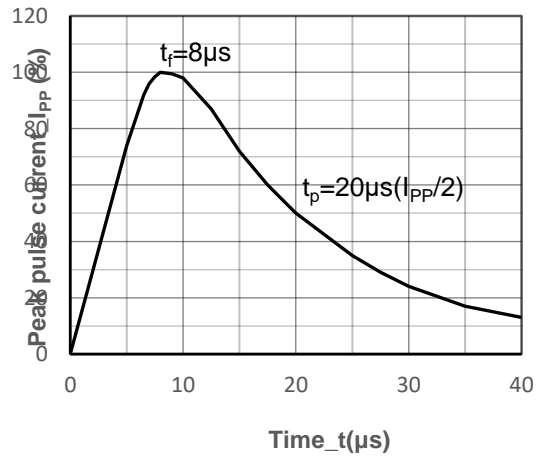


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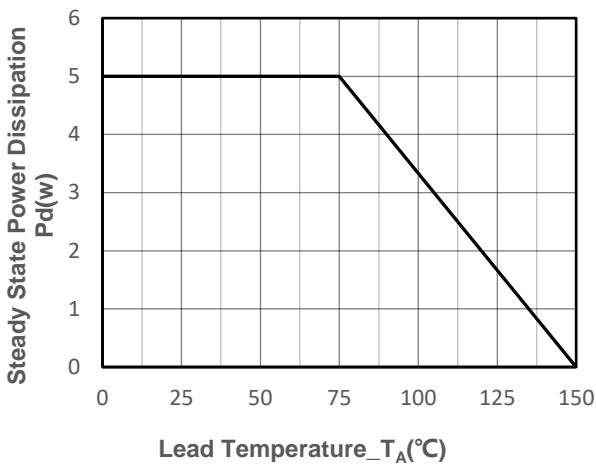
- Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



Power derating vs. Ambient temperature



8/20 μs Pulse Waveform



Steady State Power Dissipation vs. Lead Temperature



SSCT58V52DC3

● Package Information

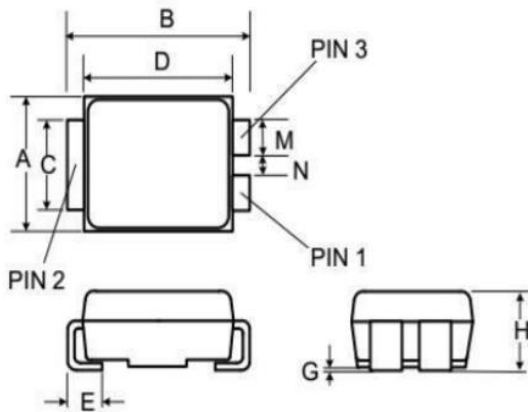
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCT58V52DC3	SMC-3	3000	7 Inch

Mechanical Data

Case: SMC-3

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	5.59	6.2
B	7.75	8.13
C	2.90	3.20
D	6.60	7.11
E	0.76	1.52
G	-	0.203
H	2.06	2.75
M	0.8	1.3
N	0.6	1.0



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