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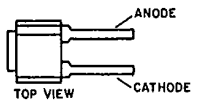
SGT03U13, SGT06U13, SGT23U13

Unidirectional Transient Surge Suppressors

Features:
- *Clamping voltages - 33V, 60V, or 230V*
- *300A peak transient surge current*
- *130 mA minimum holding current*
- *Subnanosecond clamping action*
- *Low on-state voltage*

Applications:
- *Telecommunications equipment*
- *Data and voice lines*
- *Computer modems*
- *Alarm systems*

TERMINAL DESIGNATIONS



92CS 40367

MODIFIED TO-202

RCA SURGECTORs are designed to protect telecommunication equipment, data links, alarm systems, power supplies and other sensitive electrical circuits from damage that could be caused by switching transients, lightning strikes, load changes, commutation spikes, and line crosses.

These RCA SURGECTORs are monolithic compound structures consisting of a thyristor whose gate region contains a special diffused section which acts as a zener diode. This zener diode section permits anode voltage turn-on of the structure. Initial clamping by the zener diode section and fast turn-on by the thyristor provide excellent voltage limiting even on very fast rise-time transients. The thyristor also features very high holding current allowing the SURGECTOR to recover to it's high impedance off-state after the transient. The SURGECTOR's normal off-state condition in the forward blocking mode is a high-impedance, low-leakage state that prevents loading of the telecommunication line.

MAXIMUM RATINGS, *Absolute-Maximum Values:*

		SGT03U13	SGT06U13	SGT23U13	
Continuous Off-State Voltage	V_{DM}	30	58	225	V
	V_{RM}	1	1	1	V
Transient Peak Surge Current	I_{TSM}				
1μs x 2μs*		300			A
6μs x 400μs		125			A
10μs x 560μs		90			A
10μs x 1000μs		75			A
One Half Cycle, 50-60 Hz**		60			A
One Second, 50-60 Hz, Halfwave		30			A
Operating Temperature	T_A	-40 to +85			°C
Storage Temperature	T_{stg}	-40 to +150			°C

*Unit designed not to fail open below 450A.
**One every 30 seconds maximum.

SGT03U13, SGT06U13, SGT23U13

ELECTRICAL CHARACTERISTICS, At Case Temperature (T_C = 25°C) unless otherwise specified

CHARACTERISTIC		LIMITS			UNITS
		MIN.	TYP.	MAX.	
Off-State Current At Maximum Rated V_{DM}	I_{DM}				
T_A = 25°C		—	—	50	nA
T_A = 85°C		—	—	10	μA
Reverse Current V_{RM} = 1 V	I_{RM}				
T_A = 25°C		—	—	1	mA
T_A = 85°C		—	—	10	mA
Clamping Voltage, I_Z = 100 μA	V_Z				
SGT03U13		33	—	—	V
SGT06U13		60	—	—	V
SGT23U13		230	—	—	V
Breakover Voltage, D_V/D_T = 100V/μs	V_{BO}				
SGT03U13		—	—	50	V
SGT06U13		—	—	85	V
SGT23U13		—	—	275	V
Holding Current	I_H	130	—	—	mA
On-State Voltage, I_T = 10A	V_T	—	—	2	V
Main Terminal Capacitance	C_O	—	90	—	pF

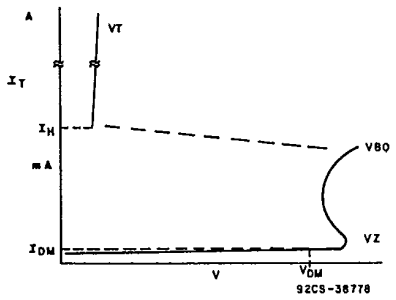


Fig. 1 - Typical volt-ampere characteristics.

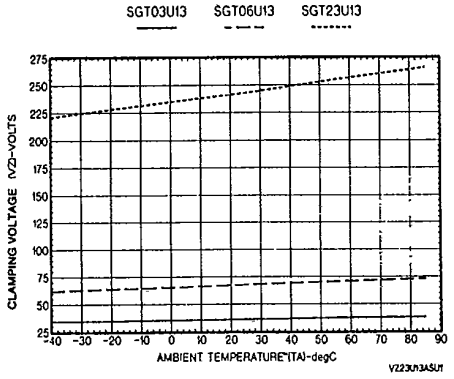


Fig. 2 - Typical clamping voltage vs. temperature.

SGT03U13, SGT06U13, SGT23U13

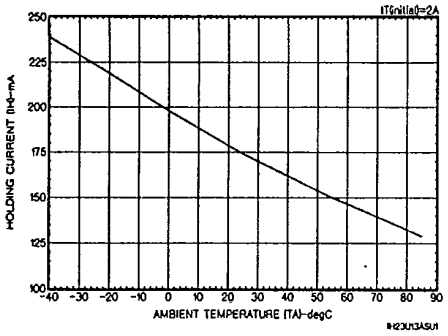


Fig. 3 - Typical holding current vs. temperature.

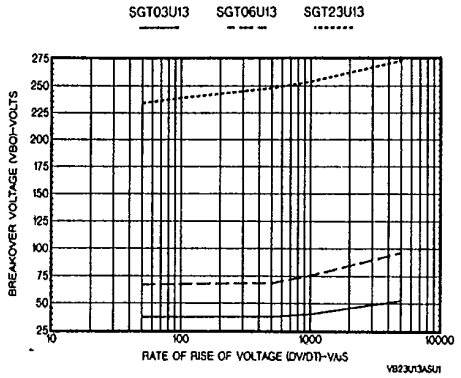


Fig. 4 - Typical V_{BO} vs. D_V/D_T.