



Product Overview

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NP SERIES: Thyristor Surge Protection Device - TSPD

For complete documentation, see the data sheet

Product Description

NP Series Thyristor Surge Protector Devices (TSPD) protect telecommunication circuits such as central office, access, and customer premises equipment from overvoltage conditions. These are bidirectional devices so they are able to have functionality of 2 devices in one package, saving valuable space on board layout.

These devices will act as a crowbar when overvoltage occurs and will divert the energy away from circuit or device that is being protected.

Use of the NP Series in equipment will help meet various regulatory requirements including: GR-1089-CORE, IEC 61000-4-5, ITU K.20/21/45, IEC 60950, TIA-968-A, FCC Part 68, EN 60950, UL 1950.

Features

- High Surge Current Capabilities: 50 Amp, 80 Amps, and 100 Amps for 10 x 1000 usec, for Controlled Temperature Environments
- Bidirectional Protection in a Single Device
- Little Change of Voltage Limit with Transient Amplitude or Rate
- Freedom from Wearout Mechanisms Present in NonSemiconductorDevices
- UL Registered File #E210057
- Fail Safe, Shorts When Overstressed, Preventing Continued Protected Operation

Benefits

- Limits voltage and diverts surge current to ground
- Helps designers meet regulatory requirements such as Bellcore GR-1089-CORE and ITU K.20/K.21
- Reliable operation
- Minimum space required
- Quickly returns to protective state after surge

Applications

- Central Office(CO), Subscriber Line Interface Circuit(SLIC)
- Access Equipment
- Customer Premises Equipment (CPE)
- Private Branch exchange (PBX)
- Digital Subscriber Lines (DSL)

End Products

- (CPE) - Phones, modems, fax machines
- Satellite and CATV set-top Boxes

Product	Compliance	Status	V _{DM} Max (V)	V _{DRM} Max (V)	V _(BO) Max (V)	I _D Max (uA)	I _{DRM} Max (uA)	I _H Min (mA)	I _{PPS} Max (A)	dI/dt Max (A/μs)	C _O Typ (pF)	Package Type
NP0640SAT3G	Pb-free	Active		58	77		5	150	50	500	70	SMB-2
	Halide free											
NP0640SBT3G	Pb-free	Active		58	77		5	150	80	500	70	SMB-2
	Halide free											
NP0640SCT3G	Pb-free	Active		58	77		5	150	100	500	210	SMB-2
	Halide free											
NP0720SAT3G	Pb-free	Active		65	88		5	150	50	500	70	SMB-2
	Halide free											
NP0720SBT3G	Pb-free	Active		65	88		5	150	80	500	125	SMB-2
	Halide free											
NP0720SCT3G	Pb-free	Active		65	88		5	150	100	500	210	SMB-2
	Halide free											
NP0900SAT3G	Pb-free	Active		75	98		5	150	50	500	70	SMB-2
	Halide free											
NP0900SBT3G	Pb-free	Active		75	98		5	150	80	500	125	SMB-2
	Halide free											
NP0900SCT3G	Pb-free	Active		75	98		5	150	100	500	125	SMB-2
	Halide free											
NP1100SAT3G	Pb-free	Active		90	130		5	150	50	500	70	SMB-2
	Halide free											
NP1100SBT3G	Pb-free	Active		90	130		5	150	80	500	125	SMB-2
	Halide free											
NP1100SCT3G	Pb-free	Active		90	130		5	150	100	500	210	SMB-2
	Halide free											
NP1300SAT3G	Pb-free	Active		120	160		5	150	50	500	60	SMB-2
	Halide free											
NP1300SBT3G	Pb-free	Active		120	160		5	150	80	500	100	SMB-2
	Halide free											
NP1300SCT3G	Pb-free	Active		120	160		5	150	100	500	180	SMB-2
	Halide free											
NP1500SAT3G	Pb-free	Active		140	180		5	150	50	500	60	SMB-2
	Halide free											
NP1500SBT3G	Pb-free	Active		140	180		5	150	80	500	100	SMB-2
	Halide free											
NP1500SCT3G	Pb-free	Active		140	180		5	150	100	500	180	SMB-2
	Halide free											
NP1800SAT3G	Pb-free	Active		170	220		5	150	50	500	60	SMB-2
	Halide free											
NP1800SBT3G	Pb-free	Active		170	220		5	150	80	500	100	SMB-2
	Halide free											
NP1800SCT3G	Pb-free	Active		170	220		5	150	100	500	180	SMB-2
	Halide free											
NP2100SAT3G	Pb-free	Active		180	240		5	150	50	500	60	SMB-2
	Halide free											
NP2100SBT3G	Pb-free	Active		180	240		5	150	80	500	100	SMB-2
	Halide free											
NP2100SCT3G	Pb-free	Active		180	240		5	150	100	500	180	SMB-2
	Halide free											
NP2300SAT3G	Pb-free	Active		190	260		5	150	50	500	40	SMB-2
	Halide free											
NP2300SBT3G	Pb-free	Active		190	260		5	150	80	500	60	SMB-2
	Halide free											

NP2300SCT3G	Pb-free Halide free	Active		190	260		5	150	100	500	100	SMB-2
NP2600SAT3G	Pb-free Halide free	Active		220	300		5	150	50	500	40	SMB-2
NP2600SBT3G	Pb-free Halide free	Active		220	300		5	150	80	500	60	SMB-2
NP2600SCT3G	Pb-free Halide free	Active		220	300		5	150	100	500	100	SMB-2
NP3100SAT3G	Pb-free Halide free	Active		275	350		5	150	50	500	40	SMB-2
NP3100SBT3G	Pb-free Halide free	Active		275	350		5	150	80	500	60	SMB-2
NP3100SCT3G	Pb-free Halide free	Active		275	350		5	150	100	500	100	SMB-2
NP3500SAT3G	Pb-free Halide free	Active		320	400		5	150	50	500	40	SMB-2
NP3500SBT3G	Pb-free Halide free	Active		320	400		5	150	80	500	60	SMB-2
NP3500SCT3G	Pb-free Halide free	Active		320	400		5	150	100	500	100	SMB-2

Package Availability

Type	Pb-free	Standard
SMB-2	✓	

For more information please contact your local sales support at www.onsemi.com