



बैंक नोट पेपर मिल इण्डिया प्रा. लिमिटेड

BANK NOTE PAPER MILL INDIA PVT LIMITED

JV of SPMCIL - A Govt. of India Enterprises & BRBNMPL - A Subsidiary of RBI

BANK NOTE PAPER MILL INDIA PRIVATE LIMITED

CIN: U21090KA2010PTC055475 | CORPORATE OFFICE, MYSORE

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Open Tender Enquiry No. BNPM/OTE/Voltage Suppressor & PWM Switch/0630/2022-23
Enquiry for supply of Transient Voltage Suppressor & Three Terminal Off-Line PWM
Switch

Issuing Date & Time: 25.11.2022 16:00 hrs.

Closing Date & Time: 02.12.2022 16:00 hrs.

A. Scope of supply: Supply of following items:

S No	Item Description	UOM	Quantity
1	Transient Voltage Suppressor , Type - P6KE200A , Package: DO-204AC (DO-15) <ul style="list-style-type: none"> • Transient Voltage Suppressor , Type - P6KE200A , Package: DO-204AC (DO-15) • Type : P6KE200A – Uni-directional • Package: DO-204AC (DO-15) • 600 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle): 0.01 % Primary Characteristics • VWM : 5.8 V to 459 V • VBR : Uni-directional 6.8 V to 540 V • Pppm :600 W • Pd :5.0 W • IFSM (Uni-directional only) 100 A • Tj max. 175 °C • Polarity : Uni-directional • Datasheet Enclosed 	Nos.	25
2	Three Terminal Off-Line PWM Switch , Type - TOP 226YN <ul style="list-style-type: none"> • Three Terminal Off-Line PWM Switch , Type - TOP 226YN • Type: TOP 226YN • Single Voltage Input 100/115/230 VAC \pm15% : 125 W • Wide Range Input 85 to 265 VAC : 75 W • Datasheet enclosed 	Nos.	15
S. No	Particulars	Quantity	



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1.	Payment Terms	100% within 30 days from date of receipt and acceptance of goods by the consignee at destination and on production of all required documents by the supplier.
2.	Price	Price should be inclusive of all taxes & duties.
3.	Freight	Shall be included in quoted price.
4.	Packing & Forwarding	Shall be included in quoted price.
5.	Delivery Terms	F.O.R – Bank Note Paper Mill India Private Limited, Mysore.
6.	Warranty Period From date of supply at BNPM, Mysuru.
7.	Warranty Certificate	Applicable / Not Applicable
8.	Delivery Period Weeks from date of receipt of purchase order.
9.	Validity of Bid	30 days from date of closing of tender.
10.	Material to be delivered at	Engineering Stores, Bank Note Paper Mill India Private Limited, Note Mudran Nagar, Mysore 570 003.
11.	Contact person	Ms. Vaishnavi Shankar P: 0821-2401175

Price Bid Format

S No	Description	UOM	Qty.	Unit rate	Freight, P&F Charges	GST @ ... %	Unit rate including GST & Freight, P&F Charges	Grand total inclusive of GST and Freight, P&F Charges (F.O.R, BNPM, Mysore)
1	Transient Voltage Suppressor , Type - P6KE200A , Package: DO-204AC (DO-15)	Nos.	25					



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	<ul style="list-style-type: none">• Transient Voltage Suppressor , Type - P6KE200A , Package: DO-204AC (DO-15)• Type : P6KE200A – Uni-directional• Package: DO-204AC (DO-15)• 600 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle): 0.01 % Primary Characteristics <ul style="list-style-type: none">• VWM : 5.8 V to 459 V• VBR : Uni-directional 6.8 V to 540 V• Pppm :600 W• Pd :5.0 W• IFSM (Uni-directional only) 100 A• Tj max. 175 °C• Polarity : Uni-directional• Datasheet Enclosed							
2	Three Terminal Off-Line PWM Switch , Type - TOP 226YN <ul style="list-style-type: none">• Three Terminal Off-Line PWM Switch , Type - TOP 226YN• Type: TOP 226YN• Single Voltage Input 100/115/230 VAC ±15% : 125 W• Wide Range Input 85 to 265 VAC : 75 W• Datasheet enclosed	Nos.	15					
Total price inclusive of all tax, freight , P&F & any other charges in figures								
Total price inclusive of all tax, freight , P&F & any other charges in words								

Note: Evaluation shall be done on the basis of overall effective price quoted by the bidder



Open Tender Enquiry No. BNPM/OTE/Voltage Suppressor & PWM Switch/0630/2022-23

HSN Code: (_____)

We hereby confirm that

1. We accept all terms & conditions mentioned in the enquiry.
2. Price quoted is inclusive of all taxes, P&F, freight etc. on F.O.R, BNPM, Mysore basis.
3. GST registration status: Unregistered / Compounding / Registered.
4. Bid validity: 30 days from date of closing of tender including extensions/corrigendum's (if any).
5. Bank Details: Acc. No.; Bank Name:;
Branch name:; Branch Code:;
IFSC:
6. MSEs / NSIC status:

(If yes, then supporting document shall be submitted along with the offer to avail the benefits under the Procurement Policy for MSEs, Order 2012 along with its amendments)

Signature of bidder:.....

Name of the Firm:.....

Seal of the firm:

GST No:

NOTE: Interested bidders are recommended to register themselves at company's website <https://bnpmindia.com/Vendor.aspx> in order to get future enquiries of relevant items



TOP221-227

TOPSwitch-II Family

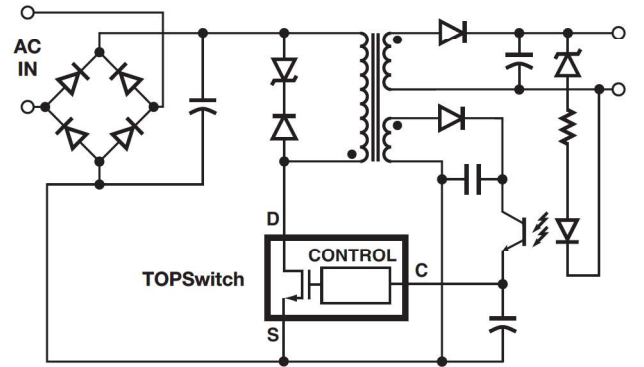
Three-Terminal Off-Line PWM Switch

Product Highlights

- Lowest cost, lowest component count switcher solution
- Cost competitive with linears above 5 W
- Very low AC/DC losses – up to 90% efficiency
- Built-in Auto-restart and Current limiting
- Latching Thermal shutdown for system level protection
- Implements Flyback, Forward, Boost or Buck topology
- Works with primary or opto feedback
- Stable in discontinuous or continuous conduction mode
- Source connected tab for low EMI
- Circuit simplicity and Design Tools reduce time to market

Description

The second generation TOPSwitch™-II family is more cost effective and provides several enhancements over the first generation TOPSwitch family. The TOPSwitch-II family extends the power range from 100W to 150W for 100/115/230 VAC input and from 50W to 90W for 85-265 VAC universal input. This brings TOPSwitch technology advantages to many new applications, i.e. TV, Monitor, Audio amplifiers, etc. Many significant circuit enhancements that reduce the sensitivity to board layout and line transients now make the design even easier. The standard 8L PDIP package option



PI-1951-091996

Figure 1. Typical Flyback Application.

reduces cost in lower power, high efficiency applications. The internal lead frame of this package uses six of its pins to transfer heat from the chip directly to the board, eliminating the cost of a heat sink. TOPSwitch incorporates all functions necessary for a switched mode control system into a three terminal monolithic IC: power MOSFET, PWM controller, high voltage start up circuit, loop compensation and fault protection circuitry.

Output Power Table

TO-220 (Y) Package ¹			8L PDIP (P) or 8L SMD (G) Package ²		
PART ORDER NUMBER	Single Voltage Input ³ 100/115/230 VAC ±15%	Wide Range Input 85 to 265 VAC	PART ORDER NUMBER	Single Voltage Input ³ 100/115/230 VAC ±15%	Wide Range Input 85 to 265 VAC
	P _{MAX} ^{4,6}	P _{MAX} ^{4,6}		P _{MAX} ^{5,6}	P _{MAX} ^{5,6}
TOP221YN	12 W	7 W	TOP221PN or TOP221GN	9 W	6 W
TOP222YN	25 W	15 W	TOP222PN or TOP222GN	15 W	10 W
TOP223YN	50 W	30 W	TOP223PN or TOP223GN	25 W	15 W
TOP224YN	75 W	45 W	TOP224PN or TOP224GN	30 W	20 W
TOP225YN	100 W	60 W			
TOP226YN	125 W	75 W			
TOP227YN	150 W	90 W			

Notes: **1.** Package outline: TO-220/3 **2.** Package Outline: DIP-8 or SMD-8 **3.** 100/115 VAC with doubler input **4.** Assumes appropriate heat sinking to keep the maximum TOPSwitch junction temperature below 100 °C. **5.** Soldered to 1 sq. in. (6.45 cm²), 2 oz. copper clad (610 gm/m²) **6.** P_{MAX} is the maximum practical continuous power output level for conditions shown. The continuous power capability in a given application depends on thermal environment, transformer design, efficiency required, minimum specified input voltage, input storage capacitance, etc. **7.** Refer to key application considerations section when using TOPSwitch-II in an existing TOPSwitch design.



TRANSZORB® Transient Voltage Suppressors



DO-204AC (DO-15)

PRIMARY CHARACTERISTICS

V_{WM}	5.8 V to 459 V
V_{BR} uni-directional	6.8 V to 540 V
V_{BR} bi-directional	6.8 V to 440 V
P_{PPM}	600 W
P_D	5.0 W
I_{FSM} (uni-directional only)	100 A
T_J max.	175 °C
Polarity	Uni-directional, bi-directional
Package	DO-204AC (DO-15)

DEVICES FOR BI-DIRECTION APPLICATIONS

For bi-directional types, use CA suffix (e.g. P6KE440CA).
Electrical characteristics apply in both directions.

FEATURES

- Glass passivated chip junction
- Available in uni-directional and bi-directional
- 600 W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle): 0.01 %
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

RoHS
COMPLIANT

TYPICAL APPLICATIONS

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, automotive, and telecommunication.

MECHANICAL DATA

Case: DO-204AC, molded epoxy over passivated chip
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS compliant, commercial grade
Base P/NHE3 - RoHS compliant, AEC-Q101 qualified

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Note

- P6KE250A to P6KE540A and P6KE250CA to P6KE440CA for commercial grade only

Polarity: For uni-directional types the color band denotes cathode end, no marking on bi-directional types

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power dissipation with a 10/1000 μ s waveform ⁽¹⁾ (fig. 1)	P_{PPM}	600	W
Peak pulse current with a 10/1000 μ s waveform ⁽¹⁾	I_{PPM}	See next table	A
Power dissipation on infinite heatsink at $T_L = 75$ °C (fig. 5)	P_D	5.0	W
Peak forward surge current 8.3 ms single half sine-wave ⁽²⁾	I_{FSM}	100	A
Maximum instantaneous forward voltage at 50 A for uni-directional only ⁽³⁾	V_F	3.5/5.0	V
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 175	°C

Notes

⁽¹⁾ Non-repetitive current pulse, per fig. 3 and derated above $T_A = 25$ °C per fig. 2

⁽²⁾ Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

⁽³⁾ $V_F = 3.5$ V for P6KE220A and below; $V_F = 5.0$ V for P6KE250A and above