GOVERNEMNT COLLEGE OF ENGINEERING, KARAD (An Autonomous Institute of Government of Maharashtra)



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No. CEK/ ENTC/Quotation /2018-2019/3708

<u>DATE</u> - /12/2018

To,

1 3 DEC 2018

Subject - Quotation for Power Electronics kits

Dear Sir,

With reference to above, I have to request you to kindly quote your rates for below mentioned material for Electronics and Telecommunication_Engineering_Department "of this Institute so as to reach this office on or before 10/01/2019 till 5.00 pm, The details are as given below —

Sr. No.	Description	Qty.
1	SCR Triggering Circuit Kit	02
2	UJT Triggering Circuit Kit	02
3	Understanding Characteristics of DIAC, TRIAC, IGBT and SCR Kit	02
4	Full converter and semi converter with reactive load-R,L,C kit	02
5	Inverter Trainer Kit	02
6	MOSFET, IGBT, Transistor & SCR based Step Down Chopper Kit	02
7	MOSFET, IGBT, Transistor & SCR based Step Up Chopper Kit	02
8	Fly-Back Converter Kit	02

Your quotation should be valid for at least 30 days from the date of opening. The quotation should be sent to "The Principal, Government College of Engineering, Karad" in sealed envelope superscripted with word "Quotation of Power Electronics for Electronics and Telecommunication Engineering Department" due on 10/01/2019. The Institute does not bind itself to accept or reject the quotation. Please note that if there is any over-writing in the quotation, the said term will not be taken into consideration.

Terms and Conditions:

- 1. Quotation validity for at least 30 days from the date of opening.
- 2. Delivery period 4 weeks from date of supply order.
- 3. Payment 100% after delivery and satisfactory acceptance.
- 4. Warranty 12 months or more.
- 5. Total amount will be considered for final call for quotation.

The quotation will be opened on 11/01/2019 at 03.00 p.m. Specifications are as enclosed.

Thanking you.

Govt. College of Engineering, Karad.

Sr. No.	Name and description of	Specification
1	the equipment SCR Triggering Circuit	On board AC source: 18 V - 0 V - 18 V
_	Color Higgering Circuit	
		On board firing circuits:
		R Triggering Circuit
		RC Half Wave Triggering Circuit
		RC Full Wave Triggering Circuit
		Interconnections: 2 mm sockets (Gold plated) Firing angle variation: Gradually variation using firing
		control POTS
		SCR assembly: 4 SCRs 2P4M, 400 V/2A
2	IIIT Twiczenie - Circuit	Test points: 8 nos (Gold plated) On board AC source: 48 V
-	UJT Triggering Circuit	On board firing circuits: UJT line Synchronized Triggering
		Circuit
	* I	Firing angle variation: 5° to 172° using firing
		control POTS
		SCR assembly : 4 SCRs of 4 A
		Diode assembly: 2 diodes of 4 A
		(Half Controlled Bridge and Full Controlled Bridge)
		Test points: 12 nos (Gold plated)
	(P)	Test points . 12 nos (cora platea)
3	Understanding	Standalone operation
	Characteristics of DIAC,	Inbuilt fixed and variable power supply
	TRIAC, SCR and IGBT	Toggle switch for selection of variable power supply
		Inbuilt Ammeter and Voltmeter
		Bread board
		Resistance bank
		10 turn potentiometer
		Mains power supply : $90 - 270V \pm 10\%$, $50Hz$
		Fixed DC power supply: +15V, Regulated
		+35V, Regulated
		-35V, Regulated
		Bread Board
		Dimension (mm): 75 x 61 x 10
		Distribution strips: 2
		Terminal strips: 1
		Distribution holes: 200
		Terminal holes: 640
		DIAC: DB3
	_	TRIAC: BT136
1		SCR: TYN616
		Resistor Bank
		M.F.R. 2.2K 1% 1/4W (3 Nos.)
1 2		M.F.R. 470E 1% 1/4W (3 Nos.)
		M.F.R. 1K 1% 5W (3 Nos.)
1. 3		M.F.R. 4.7K 1% 5W (3 Nos.)
1 4		M.F.R. 1K 1% 10W (3 Nos.)
the same		Variable Resistance bank
5-		5K 10 turn Potentiometer (2 Nos.)
a N		Voltmeter Range: 0V to 99V
J. 1		Ammeter Range: 0mA to 20mA
1		Internal supply: +35 V, +15 V
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		Interconnection: 2 mm socket

Collector to Emitter voltage from 0 to 35 V using Pot 2 IGBT - GBC205, 600W 10 A Bullt in Power Supply Sockets to make connections On board AC source: 0 V - 15 V,18 V - 0 V - 18 V On board firing circuits: Cosine firing scheme SCR Assembly: 4 SCRs 2 P4M, 400 V/2 A SCR and Diode Assembly: 2 SCRs, 2 diodes Mains Supply: 220V/110V, 50 Hz / 60 Hz Test points: 9 nos Interconnection: 2 mm socket Rated Power: 60W Charging Transformer: Step down type Input voltage: 230V Output voltage: 12-0-12V Output voltage: 12-0-12V Output voltage: 12-0-12V Output voltage: 230V Inverter output voltage: 230V Inverter output voltage: 230V Inverter voltage control: By PWM technique Battery: 12V DC /7-SAh /12 Hours Relay: 2 Pole/12V/25SW LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1 A (on Trainer board) Mains Fuse: 1 A Mains Supply: 230V ±10%, 50Hz Single Phase On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: -0-99% DC Geared motor: 24W 0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET. IGBT, 1GBT, 1GBT GBT GBT GBT GBT GBT GBT GBT GBT GBT			Gate voltage variation from 0 to 15 V using Pot 1	~ ~
Single Phase Controlled Rectifier Solution Soluti			Gate voltage variation from 0 to 15 V using Pot 2	
Single Phase Controlled Rectifier Sockets to make connections On board AC source : 0 V - 15 V,18 V - 0 V - 18 V On board AC source : 0 V - 15 V,18 V - 0 V - 18 V On board firing circuits : Cosine firing scheme SCR Assembly : 4 SCRs 2 P4M, 400 V/2 A SCR and Diode Assembly: 2 SCRs, 2 diodes Mains Supply : 220V/110V,50 Hz / 60 Hz Test points : 9 nos Interconnection : 2 mm socket Rated Power : 60W Charging Transformer : Step down type Input voltage : 16V Inverter Transformer : Step up type Input voltage : 120V Output voltage : 120V Output voltage : 230V ± 10W Sollz : ±5% Inverter voltage control : By PWM technique Battery : 12V DC /7.3Ah / 12 Hours Relay : 2 Pole/12V/285W LED Indicators : Inverter ON, mains ON, charging ON Fuse for inverter protection : 1A (on Trainer board) Mains Fuse : 1A Mains Supply : 220V ± 10%, 50Hz Single Phase On board PWM direcuit : Triangular Comparator circuit Frequency variation : 27 Hz to 5 KHz (approx.) PM variation : 90-90% DC Geared motor : 24V / 0.5A, 100 RPM Interconnections : 2 mm sockets MOSFET : MOSFET IRF244N, 55V, 49A IGBT : IGBT GaBC20S, 600V, 10A Transistor & SCR based Step Down Chopper SCR TyN 616, 600 V, 16A Transistor & SCR based Step D Chopper Supply : 20V 110V, 50 Hz / 60 Hz Supply : 20V 110V, 50 Hz /			Collector to Emilier voltage from v to 33 v doing v or 2	
Single Phase Controlled Rectifier Son board AC Source: 0 V - 15 V,18 V - 0 V - 18 V On board firing circuits: Cosine firing scheme SCR Assembly: 4 SCRs 2P4M, 400 V/2 A SCR and Diode Assembly: 2 SCRs, 2 diodes Mains Supply: 220V/110V, 50 Hz / 60 Hz Test points: 9 nos Interconnection: 2 mm socket Rated Power: 60W Charging Transformer: Step down type Input voltage: 2:30V Output voltage: 2:30V Inverter Trainer Rated Power: 16 W Charging Transformer: Step down type Input voltage: 2:30V Univerter output voltage: 2:30V Inverter output voltage: 2:30V Inverter output voltage: 120 Let V SOHZ ±5% Inverter voltage control: By PWM technique Battery: 12V DC 7/5.3h / 12 Hours Relay: 2 Pole/12V/285W LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Supply: 2:30V ± 10%, 50Hz Single Phase On board PWM circuit: Triangular Comparator circuit Frequency variation: 2-7 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 2-4V/ 0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET, IGBT, Transistor & SCR based Step Down Chopper MOSFET, IGBT, Transistor: Transistor: TIP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V/5 0 Hz / 60 Hz Built in Power Supply: On board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the 1-1 Input DC Voltage: 12-15V/3A PWM Frequency Variation: SKHz to 22KHz Duty Cycle Variation: The Control of the power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3-4Ht), L2 (3-8Ht), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) Test Points: 18 nos.			IGB1: G4BC20S, 000 V7 TO A	
Single Phase Controlled Retifier On board AC source: 0 V - 15 V,18 V - 0 V - 18 V On board firing circuits: Cosine fring scheme SCR Assembly: 4 SCRs 2P4M, 400 V/2 A SCR and Diode Assembly: 2 SCRs, 2 diodes Mains Supply: 220V/110V, 50 Hz / 60 Hz Test points: 9 nos Interconnection: 2 mm socket Inverter Trainer Inverter Trainer Inverter Trainer Inverter Trainer Inverter Trainer Rated Power: 60W Charging Transformer: Step down type Input voltage: 1200 Output voltage: 1200 Output voltage: 1200 Inverter output voltage: 230V Inverter output voltage: 230V ± 10% Soltz ±5% Inverter voltage control: By PWM technique Battery: 12V DC /7.5Ah /12 Hours Relay: 2 Polel 12V 28SW LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Fuse: 1A Mains Supply: 230V ± 10%, 50Hz Single Phase MOSFET, IGBT, Transistor & SCR based Step Down Chopper MOSFET, IGBT, Transistor & SCR based Step Down Chopper MOSFET, IGBT, Transistor & SCR based Step Up Chopper MOSFET, IGBT, Transistor & SCR based Step Up Chopper MOSFET, IGBT, Transistor & SCR based Step Up Chopper MOSFET, IGBT, Transistor & SCR based Step Up Chopper MOSFET, IGBT, Transistor & SCR based Step Up Chopper MOSFET, IGBT, Transistor & SCR based Step Up Chopper MOSFET, IGBT, Transistor & SCR based Step Up Chopper MOSFET, IGBT, Transistor & SCR based Step Up Chopper MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the 11 MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the 11 Input DC Voltage: 12-15V/3A MOSFET (JBT, 1031) Input DC Voltage: 12-15V/3A MOSFET (JBT, 1031) Inductors: L1 (3,4Ht), L2 (3,8Ht), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) C3 (220µF/63V) Text Points: 18 nos.			Built in Power Supply	
Comparison of the converter and Semi converter with reactive load-R.L.C kit) Comparison of the converted load-R.L.C kit) Comparison of the c			Sockets to make connections	
(Full converter and Semi converter with reactive load R,L,C kii) Inverter Trainer SCR Assembly: 4 SCRs 2P4M, 400 V/2 A SCR and Diode Assembly; 2 SCRs, 2 diodes Mains Supply: 220V/110V, 50 Hz / 60 Hz Test points: 9 nos Interconnection: 2 mm socket Inverter Trainer Rated Power: 60W Charging Transformer: Step down type Input voltage: 120-012V Output voltage: 120-012V Output voltage: 120-012V Output voltage: 230V Inverter output voltage: 230V ±10% 50Hz ±5% Inverter voltage control: By PWM technique Battery: 12V DC 7.5Ah /12 Hours Relay: 2 Pole/12V/285W LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Fuse: 1A Mains Supply: 230V ±10%, 50Hz Single Phase On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 24V/0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: MOSFET IRFZ4MN, 55V, 49A IGBT: IGBT GBECOS, 600V, 10A Transistor: Transistor TIP122, 100V, 5A SCR: SCR TN 616, 600 V, 16A Test points: 4 nos Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply: 7 on board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points Provided to check the: Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RLI & RLZ (75Ü & 75Ü) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Diver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (20µF/63V) Test Points: 18 nos.			On board AC source: 0 V - 15 V,18 V - 0 V - 18 V	
Cruit converter and semi- converter with reactive load- R,L,C kit)		Rectifier	On board firing circuits: Cosine firing scheme	
S.R. and Dute Assembly 2-2007. 10V, 50 Hz / 60 Hz R.L.C. kit) Inverter Trainer	4	(Pall assurates and Comi	SCR Assembly: 4 SCRs 2P4M, 400 V/2 A	
R,L,C kit) Mains Supply: 22UV110V, 30 H27 60 H2 Test points: 9 nos Interconnection: 2 mm socket Rated Power: 60W Charging Transformer: Step down type Input voltage: 16V Inverter Trainer Rated Power: 60W Charging Transformer: Step up type Input voltage: 120-12V Output voltage: 120-12V Output voltage: 320V Inverter output voltage: 230V Inverter output voltage: 230V ±10% 50H2 ±35% Inverter voltage control: By PWM technique Battery: 12V DC 7.5Ah /12 Hours Relay: 2 Pole/12V/285W LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Fuse: 1A Mains Supply: 230V ±10%, 50Hz Single Phase On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 27 Hz to 5 KHz (approx.) PWM variation: 20 mm sockets MOSFET: MOSFET IRFZ-44N, 55V, 49A IGBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor: TIP122, 100V, 5A SCR: SCR: TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz MoSFET, IGBT, Transistor: SCR Assembly; Test points: provided to check the: 11 Hz Transistor: Transistor: SLI & RLZ (750 & 750) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (20µF/63V) Test Points: 18 nos.			SCR and Diode Assembly: 2 SCRs, 2 diodes	
Test points: 9 nos Interconnection: 2 mm socket Rated Power: 60W Charging Transformer: Step down type Input voltage: 120V Output voltage: 16V Inverter Transformer: Step up type Input voltage: 120-0-12V Output voltage: 230V Inverter output voltage: 230V Inverter output voltage: 230V ±10% 50Hz ±5-% Inverter voltage control: By PWM technique Battery: 12V DC /7.5Ah /12 Hours Relay: 2 Pole/12V/285W LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Fuse: 1A Mains Supply: 230V ±10%, 50Hz Single Phase Step Down Chopper On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 24V/0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: MOSFET IRFZ44N, 55V, 49A IGBT: IGBT GBBC20S, 600V, 10A Transistor: Transistor TiP122, 100V, 5A SCR: SCR: TNY 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply: On board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RLI & RL2 (75Û & 75Û) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) Test Points: 18 nos.			Mains Supply: 220V/110V, 50 Hz / 60 Hz	
Interconnection : 2 mm socket		K,L,C KII)		
Rated Power: 60W Charging Transformer: Step down type Input voltage: 230V Output voltage: 16V Inverter Transformer: Step up type Input voltage: 12-0-12V Output voltage: 12-0-12V Output voltage: 230V Inverter output voltage: 230V ± 10% 50Hz ± 59% Inverter voltage control: By PWM technique Battery: 12V DC /7.5Ah /12 Hours Relay: 2 Pole/12V/285W LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Fuse: 1A Mains Supply: 230V ± 10%, 50Hz Single Phase On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 24W/0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: MOSFET IRFZ44N, 55V, 49A IGBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor TiP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply: 0 no board PWM circuit On board MOSFET, IGBT, IGBT, IGBT, ITansistor & SCR Assembly; Test points provided to check the 1/1 Input DC Voltage: 12-15V/3A PWM Frequency Variation: SKIz to 22KHz Duty Cycle Variation: 57% to 45% Load Assembly: RL1 & RL2 (75U & 75U) Power Isolation Section: Single channel Power device: MOSFET/IRBT205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) C3 (220µF/63V) Test Points: 18 nos.				
Charging Transformer: Step down type Input voltage: 230V Output voltage: 16V Inverter Transformer: Step up type Input voltage: 120-12V Output voltage: 230V Inverter voltage control: By PWM technique Battery: 12V DC 77.5Ah /12 Hours Relay: 2 Pole/12V/285W LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Fuse: 1A Mains Supply: 230V ±10%, 50Hz Single Phase On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 24V/105A, 100 RPM Interconnections: 2 mm sockets MOSFET: IGBT GBBC20S, 600V, 10A Transistor: Transistor TIP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75U & 75U) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) C3 (220µF/63V) Test Points: 18 nos.	5	Inverter Trainer	Rated Power: 60W	
Input voltage: 230V Output voltage: 16V Inverter Transformer: Step up type Input voltage: 12-0-12V Output voltage: 230V Inverter output voltage: 230V ±10% 50Hz ±5% Inverter voltage control: By PWM technique Battery: 12V DC /7.5Ah /12 Hours Relay: 2 Pole/12V/285W LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Fuse: 1. Transistor & SCR based Step Down Chopper On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 24V/0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: IGBT; GBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor: Transistor: TIP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor: SCR Assembly; Test points provided to check the Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KPz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75U & 75U) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) Test Points: 18 nos.			Charging Transformer: Step down type	
Output voltage: 16V Inverter Transformer: Step up type Input voltage: 12-0-12V Output voltage: 230V Inverter output voltage: 230V ±10% 501E/±5% Inverter output voltage: 230V ±10% 501E/±5% Inverter voltage control: By PWM technique Battery: 12V DC /7.5Ah /12 Hours Relay: 2 Pole/12V/285W LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Fuse: 1A Mains Supply: 230V ±10%, 50Hz Single Phase On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 24V/ 0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: MOSFET IRFZ44N, 55V, 49A IGBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor TIP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75U & 75U) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3 (optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) C3 (220µF/63V) Test Points: 18 nos.				
Inverter Transformer: Step up type Input voltage: 12-0-12V Output voltage: 230V Inverter output voltage: 230V ±10% 50Hz ±5% Inverter output voltage: 230V ±10% 50Hz ±5% Inverter output voltage: 12V DC /7.5Ah /12 Hours Relay: 2 Pole/12V/285W LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Fuse: 1A Mains Supply: 230V ±10%, 50Hz Single Phase Mains Supply: 230V ±10%, 50Hz Single Phase Step Down Chopper On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DG Geared motor: 24VV.0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: MOSFET IRE7244N, 55V, 49A IGBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor: TIP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the: Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (750 & 750) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) C3 (220µF/63V) Test Points: 18 nos.	2			
Input voltage: 12-0-12V Output voltage: 230V Inverter output voltage: 230V ±10% 50Hz ±5% Inverter voltage control: By PWM technique Battery: 12V DC /7.5Ah /12 Hours Relay: 2 Pole/12V/285W LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Supply: 230V ±10%, 50Hz Single Phase On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 24V/ 0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: IGBT G4BC20S, 600V, 10A Transistor: Transistor: Transistor TIP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Bullt in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR based Step Up Chopper 8 Fly-Back Converter Fly-Back Converter Fly-Back Converter Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 5KHz to 22KHz Duty Cycle Variation: 5WHz to 22KHz Duty Cycle Variation: 5WHz to 22KHz Duty Cycle Variation: 5WHz to 25KHz Duty Cycle Variation: 5WHz to 25KHz Load Assembly; RL1 & RL2. (75U & 75U) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3 (optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) C3 (220µF/63V) Test Points: 18 nos.				
Output voltage : 230V Inverter output voltage : 230V ±10% 50Hz ±5% Inverter voltage control : By PWM technique Battery : 12V DC /7.5Ah /12 Hours Relay : 2 Pole/12V/285W LED Indicators : Inverter ON, mains ON, charging ON Fuse for inverter protection : 1A (on Trainer board) Mains Fuse : 1A Mains Supply : 230V ±10%, 50Hz Single Phase On board PWM circuit : Triangular Comparator circuit Frequency variation : 27 Hz to 5 KHz (approx.) PWM variation : 0-90% DC Geared motor : 24V/ 0.5A, 100 RPM Interconnections : 2 mm sockets MOSFET : MOSFET IRFZ44N, 55V, 49A IGBT : IGBT G4BC20S, 600V, 10A Transistor & SCR based Step Up Chopper MOSFET, IGBT, Transistor & SCR based Step Up Chopper Fly-Back Converter MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the Input DC Voltage : 12-15V/3A PWM Frequency Variation : 7% to 45% Load Assembly : RL1 & RL2 (75Û & 75Û) Power Isolation Section : Single channel Power device : MOSFET IRF3205 MOSFET/IGBT Driver : MC33153 Inductors : L1 (3.4µH), L2 (3.8µH), L3 (optional) Capacitors : C1 (1000µF/63V) C2 (470µF/63V) C3 (220µF/63V) Test Points : 18 nos.				
Inverter output voltage: 230V ±10% 50Hz ±5% Inverter voltage control: By PWM technique Battery: 12V DC /7.5Ah /12 Hours Relay: 2 Pole/12V/285W LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Fuse: 1A (on Trainer board) Mains Supply: 230V ±10%, 50Hz Single Phase On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 24V/ 0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: MOSFET IRFZ44N, 55V, 49A IGBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor TIP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the Input DC Voltage: 12-15V/3A PWM Frequency Variation: 7% to 45% Load Assembly: RL1 & RL2 (75U & 75U) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) Test Points: 18 nos.				
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Inverter voltage control: By PWM technique Battery: 12V DC /7.5Ah /12 Hours Relay: 2 Pole/12V/285W LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Fuse: 1A Mains Supply: 230V ±10%, 50Hz Single Phase On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 24VV 0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: MOSFET IRFZ44N, 55V, 49A IGBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor TIP12z, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR based Step Up Chopper 8 Fly-Back Converter Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75U & 75U) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) Test Points: 18 nos.		2		
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LED Indicators: Inverter ON, mains ON, charging ON Fuse for inverter protection: 1A (on Trainer board) Mains Fuse: 1A Mains Supply: 230V ±10%, 50Hz Single Phase On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 24V/0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: MOSFET IRFZ44H, 55V, 49A IGBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor TIP122, 100V, 5A SCR: SCR TVN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR based Step Up Chopper 8 Fly-Back Converter Fly-Back Converter Fly-Back Converter Fly-Back Converter Louty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Ü & 75Ü) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) C3 (220µF/63V) Test Points: 18 nos.			Battery: 12 V DC //. 3All /12 110tils	
Fuse for inverter protection: 1A (on Trainer board) Mains Fuse: 1A Mains Supply: 230V ±10%, 50Hz Single Phase On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 24V/ 0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: MOSFET IRFZ44N, 55V, 49A IGBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor TIP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply: 0n board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Ú & 75Ú) Power Isolation Section: Single channel Power device: MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) C3 (220µF/63V) Test Points: 18 nos.			Relay: 2 Pole/12 V/263 W	
Con Trainer board) Mains Fuse: 1A Mains Supply: 230V ±10%, 50Hz Single Phase			LED Indicators: Inverter ON, mains ON, charging ON	
Mains Fuse: 1A Mains Supply: 230V ±10%, 50Hz Single Phase On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 24V/ 0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: MOSFET IRFZ44N, 55V, 49A IGBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor TIP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the Prower Isolation: SKHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Ü & 75Ü) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.		13 2 2		
Mains Supply: 230V ±10%, 50Hz Single Phase				100
On board PWM circuit: Triangular Comparator circuit Frequency variation: 27 Hz to 5 KHz (approx.) PWM variation: 0-90% DC Geared motor: 24V/0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: MOSFET IRFZ44N, 55V, 49A IGBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor T1P122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the provided to check the provided to check the power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153			Mains Fuse: 1A	
Transistor & SCR based Step Down Chopper Frequency variation : 27 Hz to 5 KHz (approx.)		1 22	Mains Supply: 230V ±10%, 50HZ Single Phase	
PWM variation: 0-90%	6		On board PWM circuit: Triangular Comparator circuit	
DC Geared motor: 24V/ 0.5A, 100 RPM Interconnections: 2 mm sockets MOSFET: MOSFET IRFZ44N, 55V, 49A IGBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor TIP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR based Step Up Chopper 8 Fly-Back Converter Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Ù & 75Ù) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) C3 (220µF/63V) Test Points: 18 nos.		2		
Interconnections: 2 mm sockets MOSFET: MOSFET IRFZ44N, 55V, 49A IGBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor TIP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Ù & 75Ù) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) C3 (220µF/63V) Test Points: 18 nos.		Step Down Chopper		
MOSFET: MOSFET IRFZ44N, 55V, 49A IGBT: IGBT G4BC20S, 600V, 10A Transistor: Transistor TIP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Û & 75Û) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.			DC Geared motor: 24V/0.5A, 100 RPM	
IGBT : IGBT G4BC20S, 600V, 10A Transistor : Transistor TIP122, 100V, 5A SCR : SCR TYN 616, 600 V, 16A Test points : 4 nos (Gold plated) Mains Supply : 220V/110V; 50 Hz / 60 Hz Built in Power Supply ; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points Fly-Back Converter		• , , ,	Interconnections: 2 mm sockets	
Transistor: Transistor TIP122, 100V, 5A SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz MOSFET, IGBT, Transistor & SCR based Step Up Chopper Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Ù & 75Ù) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4µH), L2 (3.8µH), L3(optional) Capacitors: C1 (1000µF/63V) C2 (470µF/63V) C3 (220µF/63V) Test Points: 18 nos.			MOSFET: MOSFET IRFZ44N, 55V, 49A	
SCR: SCR TYN 616, 600 V, 16A Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz MOSFET, IGBT, Transistor & SCR based Step Up Chopper 8 Fly-Back Converter Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Û & 75Û) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.			IGBT : IGBT G4BC20S, 600V, 10A	
Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz MOSFET, IGBT, Transistor & SCR based Step Up Chopper 8 Fly-Back Converter Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Ù & 75Ù) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.			Transistor: Transistor TIP122, 100V, 5A	
Test points: 4 nos (Gold plated) Mains Supply: 220V/110V; 50 Hz / 60 Hz MOSFET, IGBT, Transistor & SCR based Step Up Chopper 8 Fly-Back Converter Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Ù & 75Ù) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.			SCR: SCR TYN 616, 600 V, 16A	
Mains Supply: 220V/110V; 50 Hz / 60 Hz Mosfet, IGBT, Transistor & SCR based Step Up Chopper 8 Fly-Back Converter Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Ù & 75Ù) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.			Test points: 4 nos (Gold plated)	
Transistor & SCR based Step Up Chopper 8 Fly-Back Converter Built in Power Supply; On board PWM circuit On board MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the provided to check the PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Ù & 75Ù) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.	3		Mains Supply: 220V/110V; 50 Hz / 60 Hz	
Transistor & SCR based Step Up Chopper 8 Fly-Back Converter MOSFET, IGBT, Transistor & SCR Assembly; Test points provided to check the PWM Frequency Variation : 5KHz to 22KHz		MOCEET ICRT	Built in Power Supply: On board PWM circuit On board	
Step Up Chopper Provided to check the Fly-Back Converter Input DC Voltage : 12-15V/3A	7	Tuengister & SCR based	MOSFET IGBT. Transistor & SCR Assembly; Test points	1
Input DC Voltage: 12-15V/3A PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Ù & 75Ù) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.			provided to check the	-
PWM Frequency Variation: 5KHz to 22KHz Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Ù & 75Ù) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.				7
Duty Cycle Variation: 7% to 45% Load Assembly: RL1 & RL2 (75Ù & 75Ù) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.	8	Fly-Back Converter	DWM Frequency Variation · 5KHz to 22KHz	
Load Assembly: RL1 & RL2 (75U & 75U) Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.	2 1		Duty Cycle Variation : 7% to 45%	
Power Isolation Section: Single channel Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.	1.		Duty Cycle Variation 1770 to 4570	
Power device: MOSFET IRF3205 MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.	1 1 22		Load Assembly: RLI & RLZ (750 & 750)	
MOSFET/IGBT Driver: MC33153 Inductors: L1 (3.4μH), L2 (3.8μH), L3(optional) Capacitors: C1 (1000μF/63V) C2 (470μF/63V) C3 (220μF/63V) Test Points: 18 nos.			Power Isolation Section: Single channel	
Inductors: L1 (3.4 μ H), L2 (3.8 μ H), L3(optional) Capacitors: C1 (1000 μ F/63V) C2 (470 μ F/63V) C3 (220 μ F/63V) Test Points: 18 nos.			Power device: MOSFET IRF3205	
Inductors: L1 (3.4 μ H), L2 (3.8 μ H), L3(optional) Capacitors: C1 (1000 μ F/63V) C2 (470 μ F/63V) C3 (220 μ F/63V) Test Points: 18 nos.				
L3(optional) Capacitors: C1 (1000 μ F/63V) C2 (470 μ F/63V) C3 (220 μ F/63V) Test Points: 18 nos.				
Test Points: 18 nos.	1			
Test Points: 18 nos.			Canacitors: C1 (1000uF/63V)	0 .01
Test Points: 18 nos.			C2 (470uF/63V)	X T
Test Points: 18 nos.			02 (320E(63V)	1
Banana Socket insert 2mm : 39 nos.			C3 (ΔΖΟΨΓ/Ο3 Y)	
Banana Socket insert 2mm: 39 1108.		The Secretary Control of the Secretary Control	1 est roints: 16 hos.	
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