




- 20 WATTS MAXIMUM OUTPUT POWER
- 2:1 WIDE INPUT VOLTAGE RANGE
- INTERNATIONAL SAFETY STANDARD APPROVAL
- SIX-SIDED CONTINUOUS SHIELD
- HIGH EFFICIENCY UP TO 88%
- SMD TYPE 1.95" X 1.19" X 0.38" PACKAGE
- FIXED SWITCHING FREQUENCY
- PATENT

The SDC20 series offer 20 watts of output power from a 1.95 x 1.19 x 0.38 inch SMD type package. The SDC20 series with 2:1 wide input voltage of 36-75VDC and features 1600VDC of isolation, short-circuit and over-voltage protection, as well as six sided shielding. All models are particularly suited to telecommunications, industrial, mobile telecom and test equipment applications.


**UL E193009**  
**TUV R50011065**  
**CB JPTUV-003967**  
**CE MARK**

## TECHNICAL SPECIFICATION

All specifications are typical at nominal input, full load and 25°C otherwise noted

OUTPUT SPECIFICATIONS		
Output power		20 Watts max
Voltage accuracy	Full load and nominal Vin	± 1%
Voltage adjustability		± 10%
Minimum load		0%
Line regulation	LL to HL at Full Load	± 0.2%
Load regulation	10% to 100% FL	± 0.5%
Ripple and noise	20MHz bandwidth (Measured with 104pF/50V MLCC)	See table
Temperature coefficient		±0.02% / °C, max
Transient response recovery time	25% load step change	300uS
Over voltage Zener diode clamp	2.0V output	3.9V
	3.3V output	3.9V
	5V output	6.2V
	12V output	15V
Over load protection	15V output	18V
	% of FL at nominal input	150% max
Short circuit protection	Hiccup, automatics recovery	
INPUT SPECIFICATIONS		
Input voltage range	48V nominal input	36 – 75VDC
Input voltage lockout	DC-DC ON	36VDC
	DC-DC OFF	33VDC
Input filter(Note 1)	L-C type	
Input voltage variation	dv/dt	5V/ms,max (Complies with ETS300 132 part 4.4)
Input surge voltage 100mS max	48V input	100VDC
Input reflected ripple (Note 2)	Nominal Vin and full load	25mA <sub>p-p</sub>
Start up time	Nominal Vin and constant resistor load	25mS
Remote ON/OFF (Note 3)	DC-DC ON	Open or 3.5V < Vr < 12V
	DC-DC OFF	Short or 0V < Vr < 1.2V
Remote off input current	Nominal Vin	2.5mA

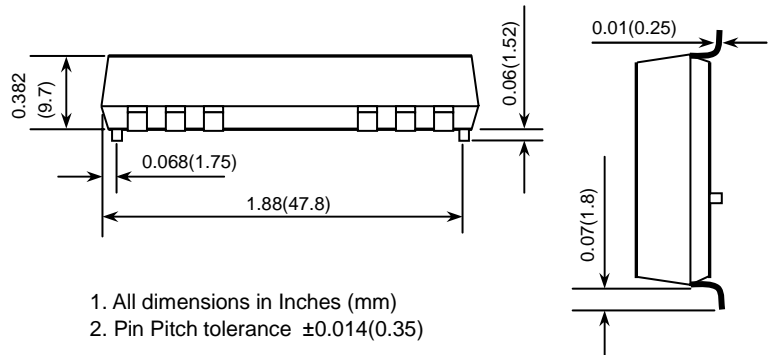
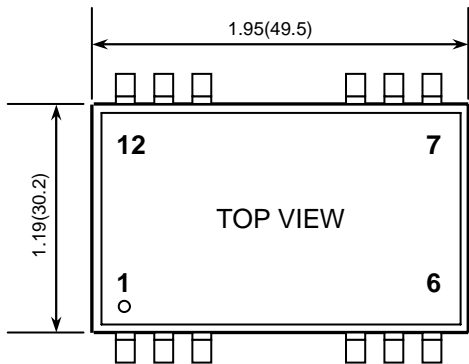
GENERAL SPECIFICATIONS		
Efficiency		See table
Isolation voltage		1600VDC, min
Isolation resistance		10 <sup>9</sup> ohms, min
Isolation capacitance		500pF, max
Switching frequency		300KHz, typ
Approvals and standard		IEC60950, UL1950, EN60950
Potting material		Epoxy (UL94-V0)
Dimensions		1.95 X 1.19 X 0.38 Inch (49.5 X 30.2 X 9.7 mm)
Weight		32.5g (1.15oz)
MTBF (Note 4)		1.632 x 10 <sup>6</sup> hrs
ENVIRONMENTAL SPECIFICATIONS		
Operating temperature range		-40°C ~ +85°C (with derating)
Maximum case temperature		+100°C
Storage temperature range		-55°C ~ +105°C
Thermal impedance	Nature convection	14°C/Watt
Thermal shock		MIL-STD-810D
Vibration		10~55Hz, 2G, 30minutes along X,Y and Z
Relative humidity		5% to 95% RH
EMC CHARACTERISTICS		
Conducted emissions	EN55022	Level A
Radiated emissions	EN55022	Level A
ESD	EN61000-4-2	Perf. Criteria2
Radiated immunity	EN61000-4-3	Perf. Criteria2
Fast transient	EN61000-4-4	Perf. Criteria2
Surge	EN61000-4-5	Perf. Criteria2
Conducted immunity	EN61000-4-6	Perf. Criteria2



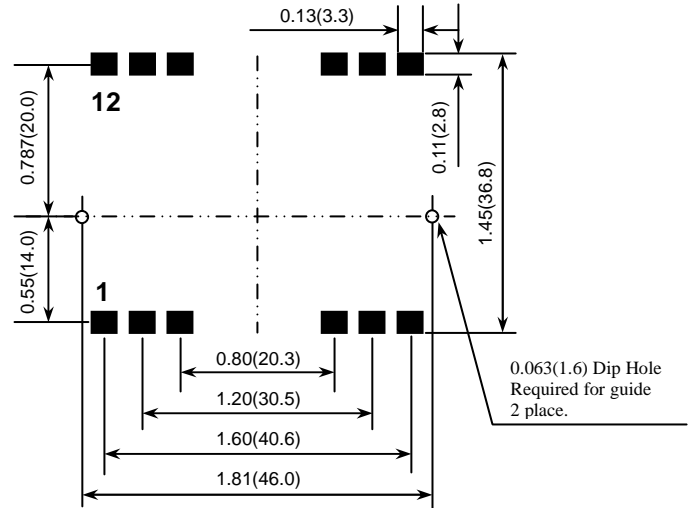
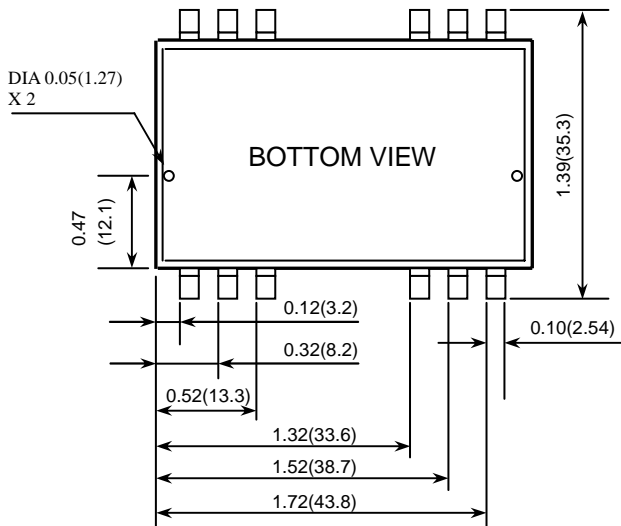
Model Number	Input Range	Output Voltage	Output Current	RIPPLE & NOISE <sup>(5)</sup>	Input Current <sup>(6)</sup>	Eff <sup>(7)</sup> (%)	Capacitor <sup>(8)</sup> Load max
SDC20-48S2P0	36 – 75 VDC	2.0 VDC	4000mA	50mV	214mA	82	17000uF
SDC20-48S3P3	36 – 75 VDC	3.3 VDC	4000mA	50mV	344mA	84	10300uF
SDC20-48S05	36 – 75 VDC	5.0 VDC	4000mA	75mV	496mA	88	6800uF
SDC20-48S12	36 – 75 VDC	12.0 VDC	1670mA	75mV	497mA	88	1200uF
SDC20-48S15	36 – 75 VDC	15.0 VDC	1330mA	75mV	503mA	87	750uF

**Note**

1. An external filter capacitor is required for normal operation. The capacitor should be capable of handling 1A ripple current for 48V models. Power mate suggest: Nippon chemi-con KMF series, 220µF/100V, ESR 90mΩ.
2. Simulated source impedance of 12uH. 12uH inductor on series with +Vin.
3. The ON/OFF control pin voltage is referenced to negative input.
4. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment)
5. Test condition: nominal input and full load.
6. Maximum value at nominal input voltage and full load.
7. Typical value at nominal input voltage and full load.
8. Test by minimum Vin and constant resistor load.



1. All dimensions in Inches (mm)
2. Pin Pitch tolerance ±0.014(0.35)



DIP PIN CONNECTION			
PIN	DEFINE	PIN	DEFINE
1	+ OUTPUT	12	+ INPUT
2	- OUTPUT	11	- INPUT
3	NC	10	NC
4	TRIM	9	SYNC
5	NC	8	ON-OFF CTRL
6	NC	7	NC

