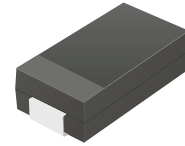


TV30C5V0-G Thru. TV30C441-G

Working Peak Reverse Voltage: 5.0 to 440 Volts

Power Dissipation: 3000 Watts

RoHS Device



Features

- Glass passivated chip.
- 3000W peak pulse power capability with a 10/1000µs waveform, repetitive rate (duty cycle):0.01%
- Low leakage.
- Uni and Bidirectional unit.
- Excellent clamping capability.
- Very fast response time.
- UL recognized file # E349157  Range: TV30C5V0J(B) thru. TV30C171J(B)

Mechanical Data

- Case: DO-214AB/SMC molded plastic.
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: Solderable per MIL-STD-750, method 2026.
- Polarity: Color band denoted cathode end except bipolar.
- Weight: 0.230 gram (approx.)



Circuit Diagram



Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristics	Symbol	Value	Units
Peak power dissipation with a 10/1000µs waveform (Note 1)	P _{PP}	3000	W
Peak pulse current with a 10/1000µs waveform (Note 1)	I _{PP}	See Next Table	A
Power dissipation on infinite heatsink at T _L =75°C	P _D	6.0	W
Peak forward surge current, 8.3ms single half sine-wave unidirectional only (Note 2)	I _{FSM}	300	A
Maximum instantaneous forward voltage at 100A for unidirectional only (Note 3)	V _F	3.5/5.0	V
Operation junction and storage temperature range	T _J , T _{STG}	-55 to +150	°C

- Notes: 1. Non-repetitive current pulse, per Fig.5 and derated above T_A=25°C, per Fig.1
2. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
3. V_F<3.5V for devices of V_{BR}<200V and V_F<5.0V for devices of V_{BR}>201V

RATING AND CHARACTERISTIC CURVES (TV30C5V0-G Thru. TV30C441-G)

Fig.1 - Pulse Derating Curve



Fig.2 - Max. Non-Repetitive Surge Current

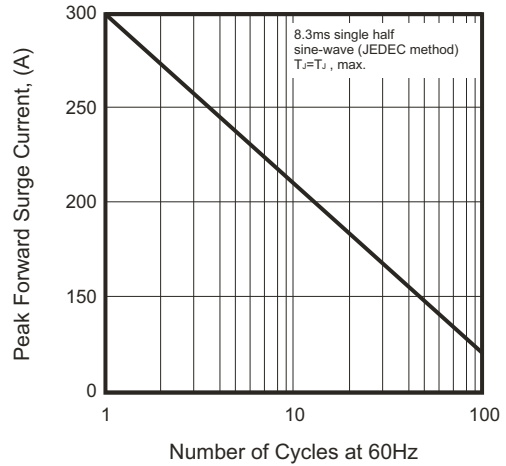


Fig.3 - Steady State Power Derating Curve



Fig.4 - Peak Pulse Power Rating Curve



Fig.5 - Pulse Waveform



Fig.6 - Typical Junction Capacitance



SMD Transient Voltage Suppressor



Electrical Characteristics (TV30C5V0-G Thru. TV30C441-G)

Part No.	Breakdown voltage V _{BR} @ I _T			Maximum Reverse Leakage @VRWM I _R (uA)	Working Peak Reverse Voltage V _{VRWM} (V)	Maximum Reverse Surge Current I _{PP} (A)	Maximum Clamping Voltage @I _{PP} V _C (V)	Device Marking Code	
	Min. (V)	Max. (V)	I _T (mA)					UNI	BI
TV30C5V0J(B)-G	6.40	7.00	50	800	5.0	326.09	9.2	RDE	DDE
TV30C6V0J(B)-G	6.67	7.37	50	800	6.0	291.26	10.3	RDG	DDG
TV30C6V5J(B)-G	7.22	7.98	50	500	6.5	267.86	11.2	RDK	DDK
TV30C7V0J(B)-G	7.78	8.60	50	200	7.0	250.00	12.0	PDM	DDM
TV30C7V5J(B)-G	8.33	9.21	5	100	7.5	232.56	12.9	PDP	DDP
TV30C8V0J(B)-G	8.89	9.83	5	50	8.0	220.59	13.6	PDR	DDR
TV30C8V5J(B)-G	9.44	10.40	5	20	8.5	208.33	14.4	PDT	DDT
TV30C9V0J(B)-G	10.00	11.10	5	10	9.0	194.81	15.4	PDV	DDV
TV30C100J(B)-G	11.10	12.30	5	5	10.0	176.47	17.0	PDX	DDX
TV30C110J(B)-G	12.20	13.50	5	2	11.0	164.84	18.2	PDZ	DDZ
TV30C120J(B)-G	13.30	14.70	5	2	12.0	150.75	19.9	PEE	DEE
TV30C130J(B)-G	14.40	15.90	5	2	13.0	139.53	21.5	PEG	DEG
TV30C140J(B)-G	15.60	17.20	5	2	14.0	129.31	23.2	PEK	DEK
TV30C150J(B)-G	16.70	18.50	5	2	15.0	122.95	24.4	PEM	DEM
TV30C160J(B)-G	17.80	19.70	5	2	16.0	115.38	26.0	PEP	DEP
TV30C170J(B)-G	18.90	20.90	5	2	17.0	108.70	27.6	PER	DER
TV30C180J(B)-G	20.00	22.10	5	2	18.0	102.74	29.2	PET	DET
TV30C190J(B)-G	21.10	23.30	5	2	19.0	97.47	30.8	PEB	DEB
TV30C200J(B)-G	22.20	24.50	5	2	20.0	92.59	32.4	PEV	DEV
TV30C220J(B)-G	24.40	26.90	5	2	22.0	84.51	35.5	PEX	DEX
TV30C240J(B)-G	26.70	29.50	5	2	24.0	77.12	38.9	PEZ	DEZ
TV30C260J(B)-G	28.90	31.90	5	2	26.0	71.26	42.1	PFE	DFE
TV30C280J(B)-G	31.10	34.40	5	2	28.0	66.08	45.4	PFG	DFG
TV30C300J(B)-G	33.30	36.80	5	2	30.0	61.98	48.4	PFK	DFK
TV30C330J(B)-G	36.70	40.60	5	2	33.0	56.29	53.3	PFM	DFM
TV30C360J(B)-G	40.00	44.20	5	2	36.0	51.64	58.1	PFP	DFP
TV30C400J(B)-G	44.40	49.10	5	2	40.0	46.51	64.5	PFR	DFR
TV30C430J(B)-G	47.80	52.80	5	2	43.0	43.23	69.4	PFT	DFT
TV30C450J(B)-G	50.00	55.30	5	2	45.0	41.27	72.7	PFV	DFV
TV30C480J(B)-G	53.30	58.90	5	2	48.0	38.76	77.4	PFX	DFX
TV30C510J(B)-G	56.70	62.70	5	2	51.0	36.41	82.4	PFZ	DFZ
TV30C540J(B)-G	60.00	66.30	5	2	54.0	34.44	87.1	RGE	DGE
TV30C580J(B)-G	64.40	71.20	5	2	58.0	32.05	93.6	PGG	DGG
TV30C600J(B)-G	66.70	73.70	5	2	60.0	30.99	96.8	PGK	DGK
TV30C640J(B)-G	71.10	78.60	5	2	64.0	29.13	103.0	PGM	DGM
TV30C700J(B)-G	77.80	86.00	5	2	70.0	26.55	113.0	PGP	DGP
TV30C750J(B)-G	83.30	92.10	5	2	75.0	24.79	121.0	PGR	DGR
TV30C780J(B)-G	86.70	95.80	5	2	78.0	23.81	126.0	PGT	DGT
TV30C800J(B)-G	88.80	97.60	5	2	80.0	23.15	129.6	PGB	DGB
TV30C850J(B)-G	94.40	104.00	5	2	85.0	21.90	137.0	PGV	DGV
TV30C900J(B)-G	100.00	111.00	5	2	90.0	20.55	146.0	PGX	DGX
TV30C101J(B)-G	111.00	123.00	5	2	100.0	18.52	162.0	PGZ	DGZ
TV30C111J(B)-G	122.00	135.00	5	2	110.0	16.95	177.0	PHE	DHE
TV30C121J(B)-G	133.00	147.00	5	2	120.0	15.54	193.0	PHG	DHG

Company reserves the right to improve product design , functions and reliability without notice.

REV.1

SMD Transient Voltage Suppressor

Electrical Characteristics (TV30C5V0-G Thru. TV30C441-G)

Part No.	Breakdown voltage V _{BR} @ I _T			Maximum Reverse Leakage @V _{RWM} I _R (uA)	Working Peak Reverse Voltage V _{RWM} (V)	Maximum Reverse Surge Current I _{PP} (A)	Maximum Clamping Voltage @I _{PP} V _C (V)	Device Marking Code	
	Min. (V)	Max. (V)	I _T (mA)					UNI	BI
TV30C131J(B)-G	144.0	159.0	5	2	130.0	14.35	209.0	PHK	DHK
TV30C141J(B)-G	155.0	171.0	5	2	140.0	13.23	226.8	PHB	DHB
TV30C151J(B)-G	167.0	185.0	5	2	150.0	12.35	243.0	PHM	DHM
TV30C161J(B)-G	178.0	197.0	5	2	160.0	11.58	259.0	PHP	DHP
TV30C171J(B)-G	189.0	209.0	5	2	170.0	10.91	275.0	PHR	DHR
TV30C181J(B)-G	200.0	220.0	5	2	180.0	10.29	291.6	PHT	DHT
TV30C191J(B)-G	211.0	232.0	5	2	190.0	9.75	307.8	PHV	DHV
TV30C201J(B)-G	224.0	247.0	5	2	200.0	9.26	324.0	PHW	DHW
TV30C221J(B)-G	246.0	272.0	5	2	220.0	8.43	356.0	PHX	DHX
TV30C251J(B)-G	279.0	309.0	5	2	250.0	7.41	405.0	PHZ	DHZ
TV30C301J(B)-G	335.0	371.0	5	2	300.0	6.17	486.0	PJE	DJE
TV30C351J(B)-G	391.0	432.0	5	2	350.0	5.29	567.0	PJG	DJG
TV30C401J(B)-G	447.0	494.0	5	2	400.0	4.63	648.0	PJK	DJK
TV30C441J(B)-G	492.0	543.0	5	2	440.0	4.21	713.0	PJM	DJM

Note:

- 1) Suffix J denotes 5% tolerance devices.
- 2) Suffix B after part number to specify Bi-directional devices.
- 3) For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double.

Reel Taping Specification



DO-214AB (SMC)	SYMBOL	A	B	C	d	T	D	D ₁	D ₂
	(mm)	See Note 1			1.55 ± 0.05	0.40 (Max.)	330.00	50.00 (Min.)	13.00 ^{+0.50} _{-0.20}
	(inch)	See Note 1			0.061 ± 0.002	0.016 (Max.)	13.000	1.969 (Min.)	0.512 ^{+0.020} _{-0.008}

DO-214AB (SMC)	SYMBOL	E	F	P	P ₀	P ₁	W	W ₁	W ₂
	(mm)	1.75 ± 0.10	7.50 ± 0.05	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	16.00 ± 0.10	16.40 ^{+2.00} _{-0.00}	22.40 (Max.)
	(inch)	0.069 ± 0.004	0.295 ± 0.002	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.630 ± 0.004	0.646 ^{+0.079} _{-0.000}	0.882 (Max.)

Notes: 1. A, B, and C the clearance between the component and the cavity must be within 0.5 mm max. for 8 mm tape and 12 mm tape, 1.0 mm max. for 16mm tape and 24 mm tape.

Company reserves the right to improve product design, functions and reliability without notice.

Marking Code

1. **C**: COMCHIP

2. ○: Package

○	PKG
A	SMA
B	SMB
C	SMC

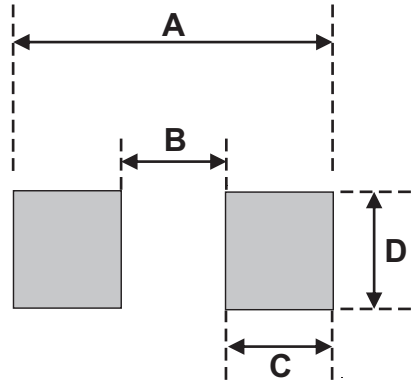
3. XXX: Marking code (see Page. 3~4)

4. : Cathod Band



Suggested PAD Layout

SIZE	DO-214AB(SMC)	
	(mm)	(inch)
A	8.13	0.320
B	4.69 MAX	0.185 MAX
C	1.52 MIN	0.060 MIN
D	3.20 MIN	0.126 MIN



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DO-214AB (SMC)	3,000	13

Mouser Electronics

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[TV30C510JB-G](#) [TV30C510J-G](#) [TV30C540J-G](#) [TV30C580JB-G](#) [TV30C580J-G](#) [TV30C5V0JB-G](#) [TV30C5V0J-G](#)
[TV30C600JB-G](#) [TV30C600J-G](#) [TV30C640JB-G](#) [TV30C640J-G](#) [TV30C6V0JB-G](#) [TV30C6V0J-G](#) [TV30C6V5JB-G](#)
[TV30C6V5J-G](#) [TV30C700JB-G](#) [TV30C700J-G](#) [TV30C750JB-G](#) [TV30C750J-G](#) [TV30C780JB-G](#) [TV30C780J-G](#)
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[TV30C9V0JB-G](#) [TV30C9V0J-G](#) [TV30C100JB-G](#) [TV30C101J-G](#) [TV30C200JB-G](#) [TV30C110JB-G](#) [TV30C100J-G](#)
[TV30C540JB-G](#) [TV30C141J-G](#)