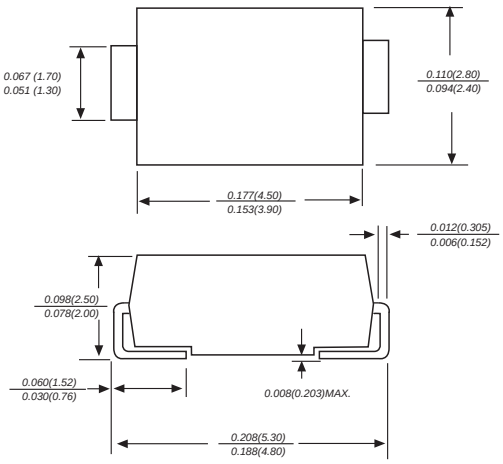
TECB6.0(C)A~TECB60(C)A

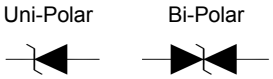
600W Surface Mount Transient Voltage Suppressors

Features

DO-214AC/SMA

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition Rate (duty cycle):0.01%
- Fast response time: typically less than 1.0ps from 0 Volts to V(BR) for unidirectional types
- Typical IR less than 1μA above 10V
- High Temperature solderting: 260°C/10 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability 94V-O
- Pb-free plated





Dimensions in inches and (millimeters)

Mechanical Data

- **Case:** JEDEC DO-214AC. Molded plastic over glass passivated junction
- **Terminals:** Solderable per MIL-STD-750,Method 2026
- **Polarity:** Color band denoted positive end (cathode) except Bidirectional
- **Standard Packaging:**12mm tape (EIA STD RS-481)

Devices For Bipolar Application

- For Bidirectional use C or CA Suffix for types TECB6.0 thru types TECB60 (e.g. TECB6.0C , TECB60CA)
- Electrical characteristics apply in both directions

Maximum Ratings And Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000μs waveform (Note 1,2 ,FIG.1)	P_{PPM}	600	Watts
Peak Pulse Current of on 10/1000μs waveform (Note 1,FIG.3)	I_{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method) (Note2,3)	I_{FSM}	100	Amps
Operating junction and Storage Temperature Range	T_J , T_{STG}	−55 to +150	℃

Notes :

1.Non-repetitive current pulse , per Fig. 3 and derated above TA = 25℃ per Fig. 2 .

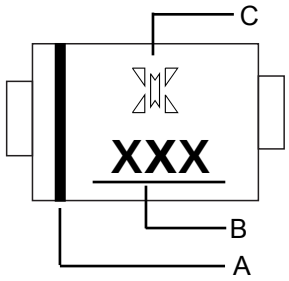
2.Mounted on 5.0mm x 5.0mm (0.03mm thick) Copper Pads to each terminal

3.8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

Electrical Characteristics

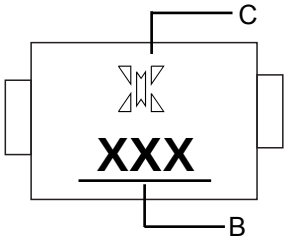
Type		Marking Code		Stand-off Voltage	Maximum Reverse Current at VR	Breakdown Voltage at IT		Test Current	Maximum Peak Pulse Current	Maximum Clamping Voltage at Ipp
Uni-Polar	Bi-Polar	Uni-Polar	Bi-Polar	V(R)	IR	V(BR)		IT	Ipp	VC
				(V)	(uA)	Min	Max	(mA)	(A)	(V)
TECB6.0A	TECB6.0CA	6G	6F	6	200	6.67	7.37	10	58.30	10.3
TECB8.0A	TECB8.0CA	8G	8F	8	50	8.89	9.83	1	44.10	13.6
TECB12A	TECB12CA	12G	12F	12	1	13.30	14.70	1	30.20	19.9
TECB15A	TECB15CA	15G	15F	15	1	16.70	18.50	1	24.60	24.4
TECB16A	TECB16CA	16G	16F	16	1	17.80	19.70	1	23.10	26.0
TECB18A	TECB18CA	18G	18F	18	1	20.00	22.10	1	20.50	29.2
TECB20A	TECB20CA	20G	20F	20	1	22.20	24.50	1	18.50	32.4
TECB22A	TECB22CA	22G	22F	22	1	24.40	26.90	1	16.90	35.5
TECB26A	TECB26CA	26G	26F	26	1	28.90	31.90	1	14.30	42.1
TECB28A	TECB28CA	28G	28F	28	1	31.10	34.40	1	13.20	45.4
TECB30A	TECB30CA	30G	30F	30	1	33.30	36.80	1	12.40	48.4
TECB33A	TECB33CA	33G	33F	33	1	36.70	40.60	1	11.30	53.3
TECB36A	TECB36CA	36G	36F	36	1	40.00	44.20	1	10.30	58.1
TECB40A	TECB40CA	40G	40F	40	1	44.40	49.10	1	9.30	64.5
TECB58A	TECB58CA	58G	58F	58	1	64.40	71.20	1	6.40	93.6
TECB60A	TECB60CA	60G	60F	60	1	66.70	73.70	1	6.20	96.8

Marking For Uni-Polar



Symbol	Explanation
A	Color Band Denotes Cathode
B	Marking Code, as above sheet
C	Logo

Marking For Bi-Polar



Symbol	Explanation
B	Marking Code, as above sheet
C	Logo

Characteristic Curves (T_A=25 ℃ unless otherwise noted)

Fig.1 Peak Pulse Power Rating

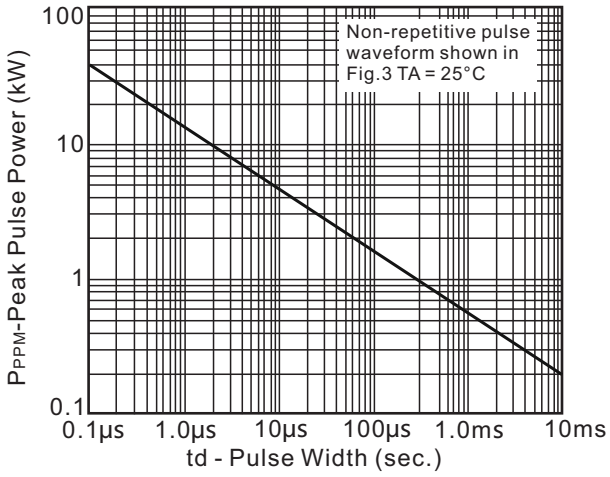


Fig.2 Pulse Derating Cruve

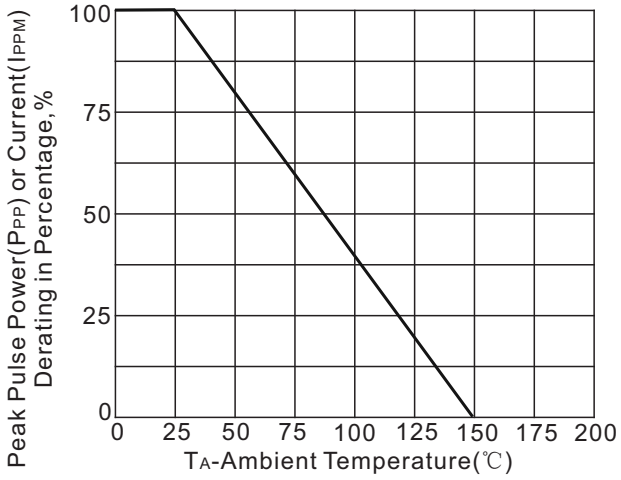


Fig.3 Pulse Waveform

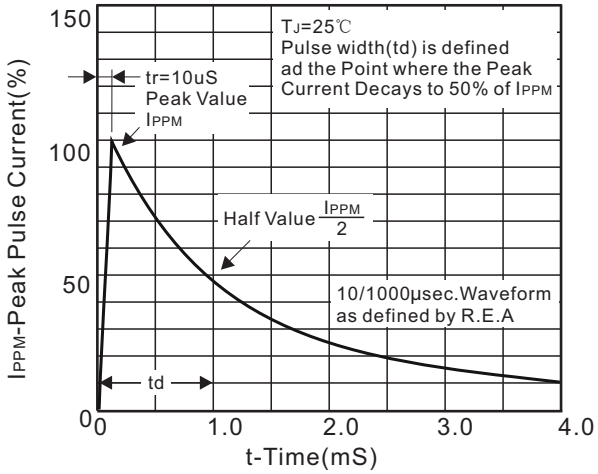


Fig.4 Typical Junction Capacitance

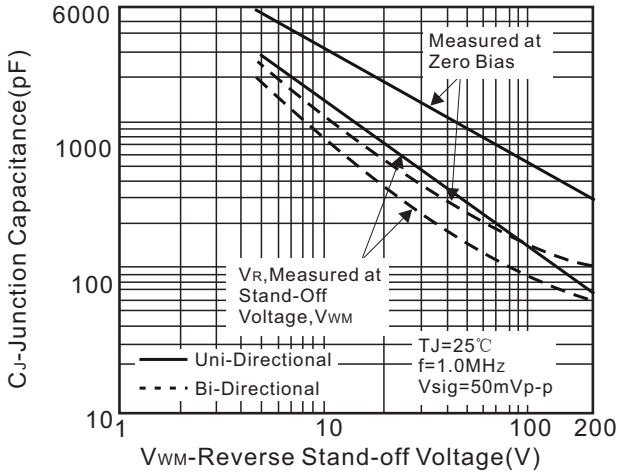


Fig.5 Typ.Transient Thermal Impedance

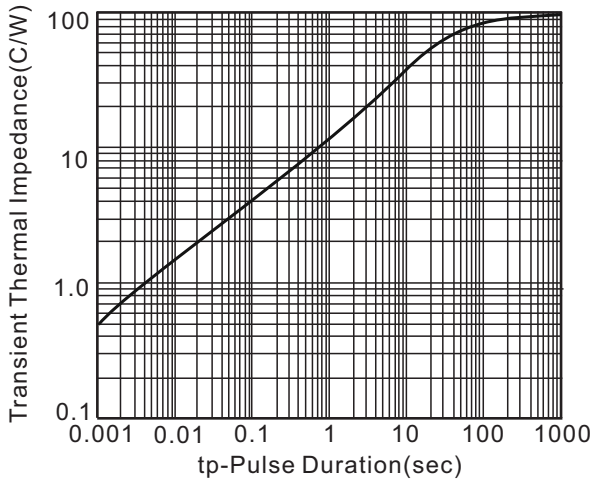
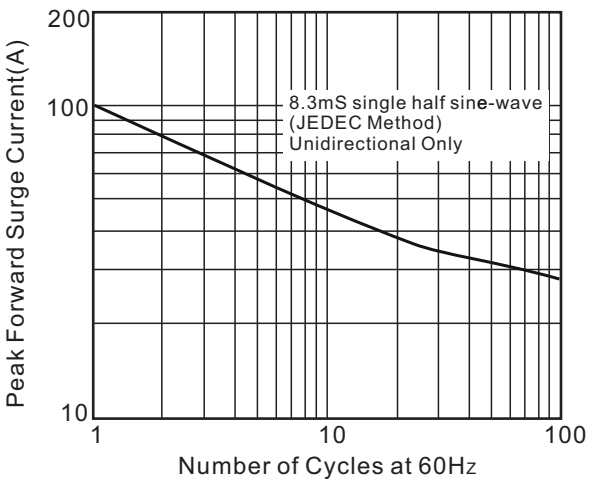
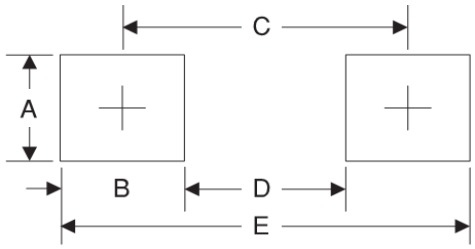


Fig.6 Maximum Non-Repetitive Peak
Forward Surge Current Uni-Directional Only

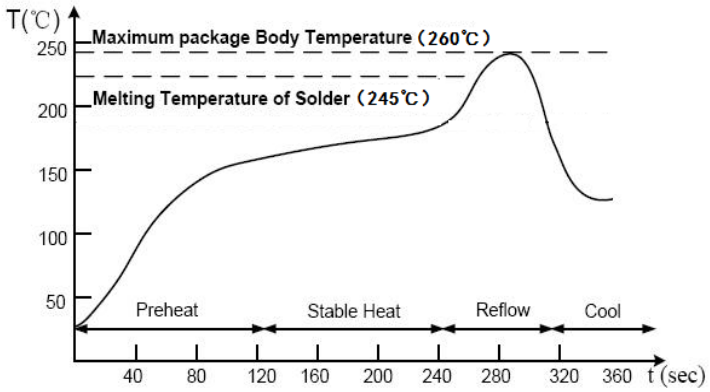


Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.68	0.066
B	1.52	0.060
C	3.90	0.154
D	2.41	0.095
E	5.45	0.215

Suggested Soldering Temperature Profile

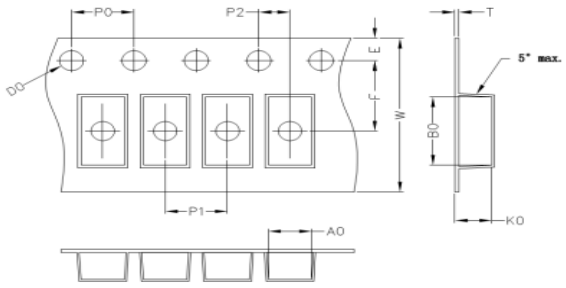


Note

- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 260°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Package Information

Carrier Dimension(mm)



A0	B0	K0	D0	E	F
2.80	5.30	2.36	1.55	1.75	5.50
P0	**P1**	**P2**	**T**	**W**	**Tolerance**
4.0	4.0	2.0	0.25	12	0.1

Package Specifications

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SMA	11'	278	5	285	10	355*310*310	80
	13'	330	7.5	340	15	360*360*360	120