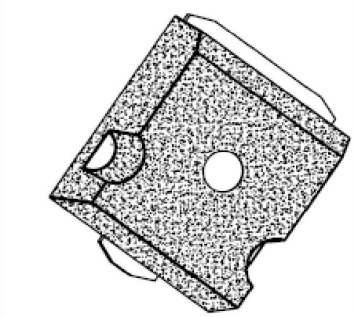
KCXXXCS Series 10KA Transient Voltage Suppressor

KCXXXCS Series

Description

The KCXXXCS series of high current bi-directional transient suppressors are designed for A.C.line protection and high power DC bus clamping applications.They provide a clamping voltagfe lower than the avalanche voltage.any voltage rise due to increased current conduction is contained to a minimum， Providing the best possible protection level.They can also be connected in series and/or parallel to create very high capacity protecyion solutions.



SMTO-218Tab

Bi-directional

Symbol

Description

- Halogen-free
- Bi-directional
- Low slope resistance
- Very low clamping voltage
- Sharp breakdown voltage
- RoHS compliant
- Glass passivated junction
- High power TVS with compact design in surface Mount package
  plastic package has underwriters laboratory f lammmability 94V-0P
- Ideal for automatic pick and place assembly and reflow process to reduce the manufacturing cost And increase the soldering quality compared to axial leads package

Absolute Maximum Ratings (T_A = 25℃RH=45%-75% nless otherwise specified)

Parameter	Symbol	Value	Unit
Peak current rating per 8/20μs IEC 61000-4-5	I_{PP}	10	KA
Operating junction temperature range	T_J	-55 to +125	℃
Operating storage temperature range	T_{STG}	-55 to +150	℃

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Electrical Characteistics（T_A=25℃）

Part Number	V_R	V_{BR}@I_T		I_T	I_R@V_R	V_C@I_{PP}	I_{PP}①
Bi-Polar	V	Min(V)	Max(V)	mA	μA	V	A
KC-036CS	36	39	46	10	10	98	10000
KC-058CS	58	64	70	10	10	110	10000
KC-066CS	66	72	80	10	10	120	10000
KC-076CS	76	85	95	10	10	140	10000

① Surge waveform:8/20μs

V_R: Stand-off voltage -- Maximum voltage that can be applied

V_{BR}: Breakdown voltage

V_C: Clamping voltage -- Peak voltage measured across the suppressor at a specified I_{PP}

I_R: Reverse leakage current

Ratings And V-ICharacteristics (T_A= 25℃nless otherwise noted）

FIG.1:V- I curve characteristics (Bi-directional)

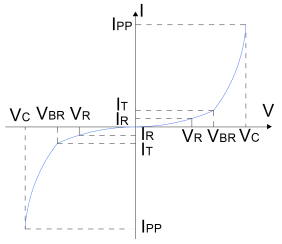


FIG.2: Typical V_{BR} vs. junction temperature

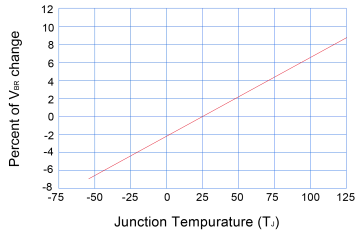


FIG.3: Pulse waveform

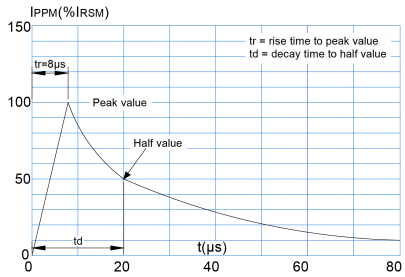
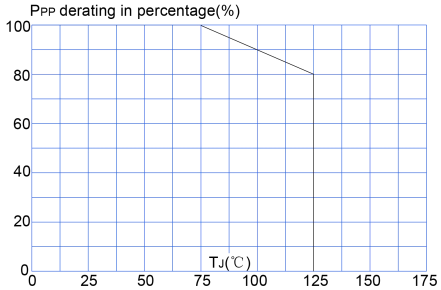


FIG.4: Pulse derating curve



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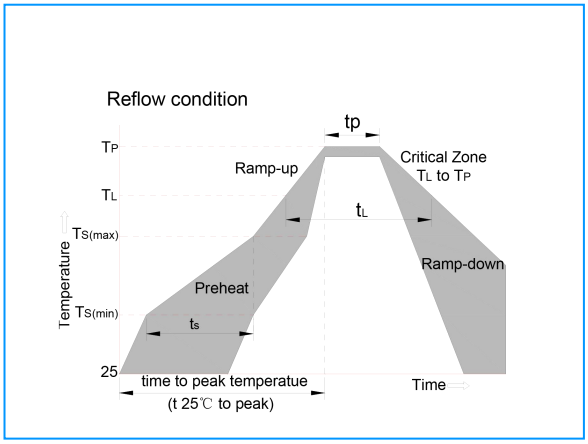
KCXXXCS Series

Soldering Parameters

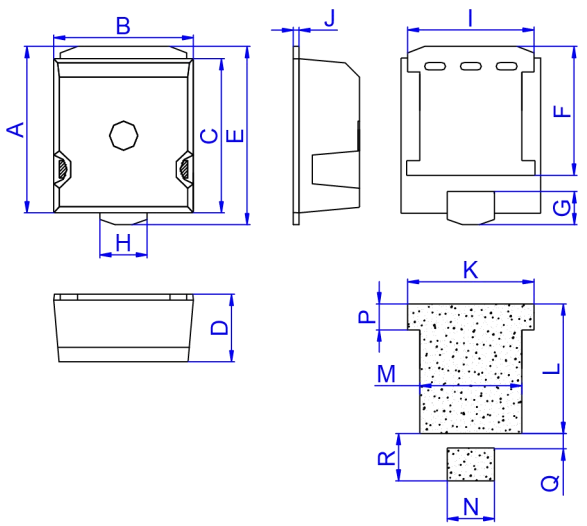
Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (T_L)to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquidus)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃of actual Peak Temp (t_p)		20-40secs.
Ramp-down Rate		6℃/sec. Max
Time 25℃to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃



KCXXXCS Series 10KA Transient Voltage Suppressor

KCXXXCS Series

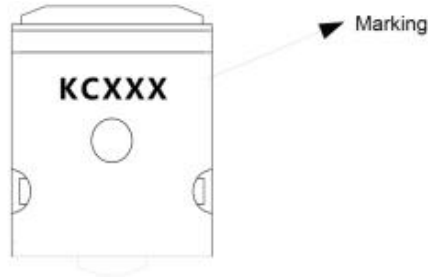
Package Mechanical Data



SMTO-218Tab

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	17.00	---	17.60	0.669	---	0.693
B	14.50	---	15.10	0.571	---	0.594
C	15.75	---	16.35	0.620	---	0.644
D	6.85	---	7.20	0.270	---	0.283
E	18.20	---	18.70	0.717	---	0.736
F	13.10	---	13.60	0.516	---	0.535
G	3.15	---	3.75	0.124	---	0.148
H	4.85	---	5.15	0.191	---	0.203
I	13.20	---	13.60	0.520	---	0.535
J	0.50	---	0.70	0.020	---	0.028
K	---	13.70	---	---	0.539	---
L	---	13.45	---	---	0.530	---
M	---	10.80	---	---	0.425	---
N	---	5.30	---	---	0.209	---
P	---	3.00	---	---	0.118	---
Q	---	1.50	---	---	0.059	---
R	---	4.90	---	---	0.193	---

Marking



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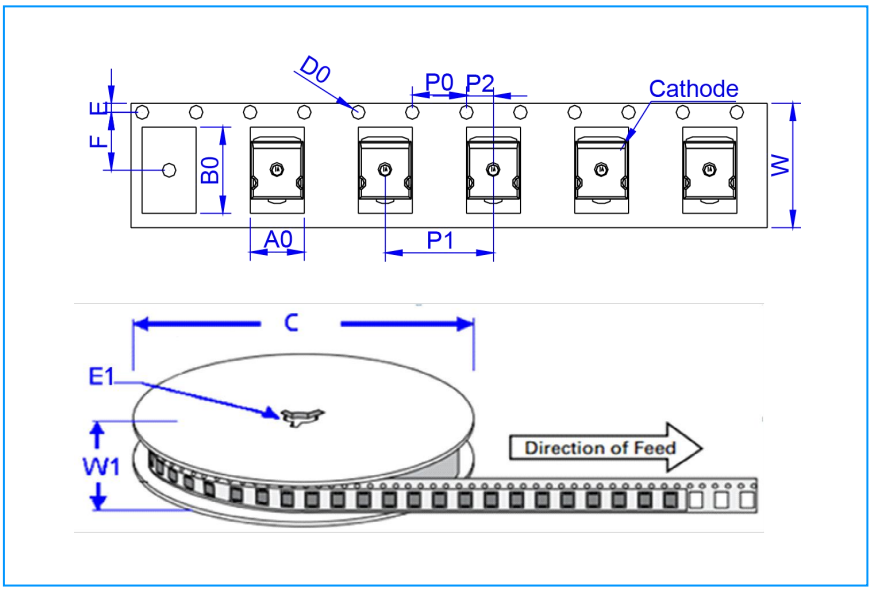
KCXXXCS Series

Tape And Reel Specification-SMTO-218Tab



Ref.	Dimensions	
	Millimeters	Inches
A0	15.1 ± 0.3	0.594± 0.012
B0	18.8 ± 0.3	0.740 ± 0.012
C	330	13
D0	1.50 ± 0.1	0.059 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.30 ± 0.3	0.524± 0.012
F	14.20 ± 0.2	0.559 ± 0.008
P0	4.0 ± 0.2	0.157 ± 0.008
P1	20.0 ± 0.2	0.787 ± 0.008
P2	2.0 ± 0.2	0.079 ± 0.008
W	32.0± 0.2	1.260 ± 0.008
W1	36.0±0.5	1.417±0.020

Packageing

OUTLINE	PACKAGE	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	REEL DIAMETERS (mm)
TAPING	KCXXXCS	6.48	400	330