

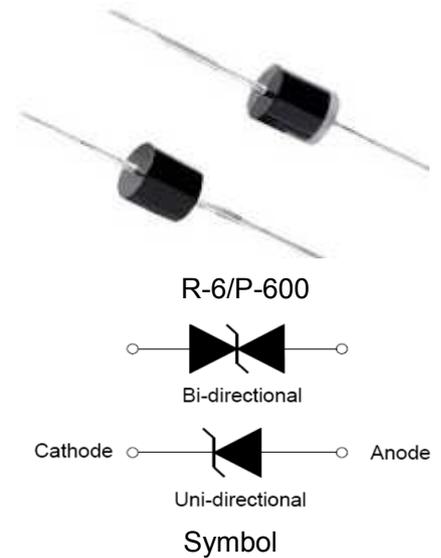


JRC-S24A/CA 8000W TVS

Rev.A-1

DESCRIPTION:

The JRC-S24A/CA of high current uni/bi-directional transient suppressors are designed for A.C. line protection and high power DC bus clamping applications. These devices offer uni/bi-directional port protection They provide a clamping voltage lower than the avalanche voltage. Therefore, 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 protection solutions.



FEATURES:

- ✧ Low incremental surge resistance.
- ✧ Excellent clamping capability.
- ✧ Color band denoted cathode except bidirectional.
- ✧ High temperature wave soldering: 265°C/10s at terminals.
- ✧ Plastic package has underwriters laboratory flammability 94V-0.
- ✧ 8000W peak pulse power capability at 10/1000µs waveform.
- ✧ Fast response time: typically less than 1.0ps from 0V to V_{BR} min.
- ✧ AEC-Q101 qualified.

IEC COMPATIBILITY

- ✧ ISO16750-2 P5A12V system (DC14V 87V/0.5Ω/400ms).

ABSOLUTE MAXIMUM RATINGS(T_A=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +175	°C
Peak pulse power dissipation on 10/1000µs waveform	P _{PP}	8000	W
Steady state power dissipation at T _L =75°C	P _{M(AV)}	8	W
Typical thermal resistance junction to lead	R _{θJL}	8.0	°C/W
Typical thermal resistance junction to ambient	R _{θJA}	40	°C/W

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}C$)

Part Number		V_R	$I_R@V_R$	$V_{BR}@I_T$		I_T	$V_C@$ 1.2/50 μs 5KV/2 Ω	$V_C@$ 10/1000 μs 205.6A
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	max(V)
JRC-S24A	JRC-S24CA	24.0	10	26.70	29.50	5	60	38.9

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-I CHARACTERISTICS CURVES ($T_A=25^{\circ}C$, unless otherwise noted)

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

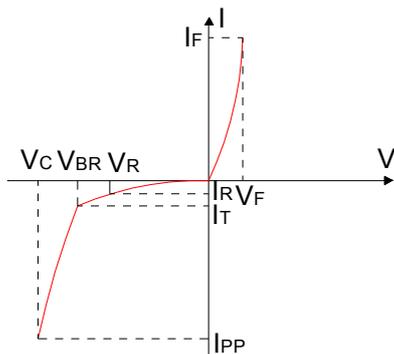


FIG.2:V- I curve characteristics (Bi-directional)

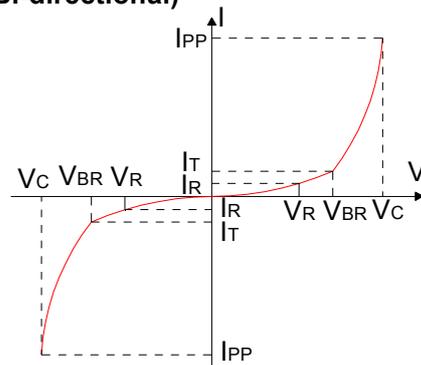


FIG.3: Pulse waveform

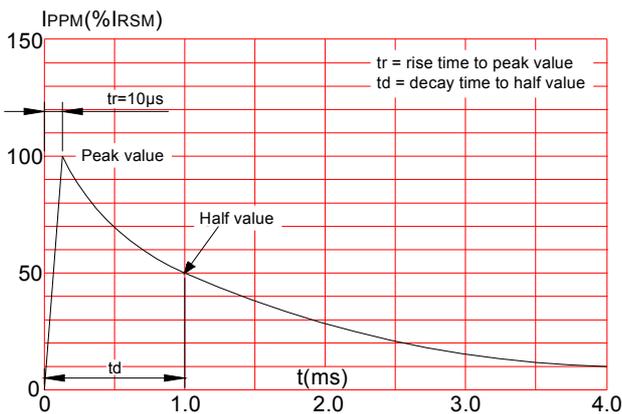


FIG.4: Pulse waveform

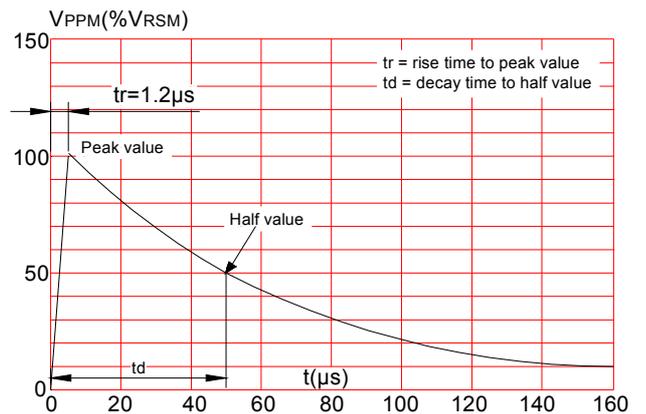
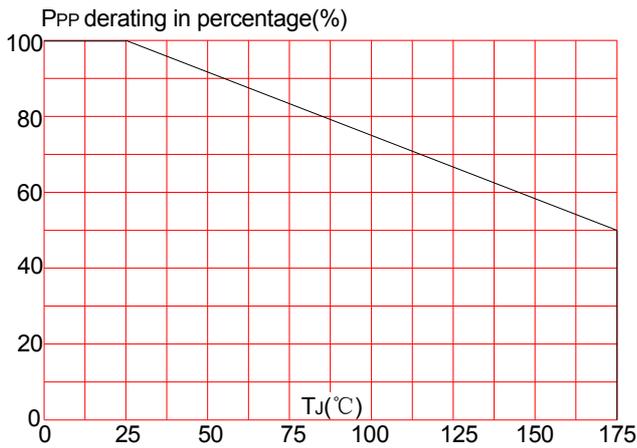
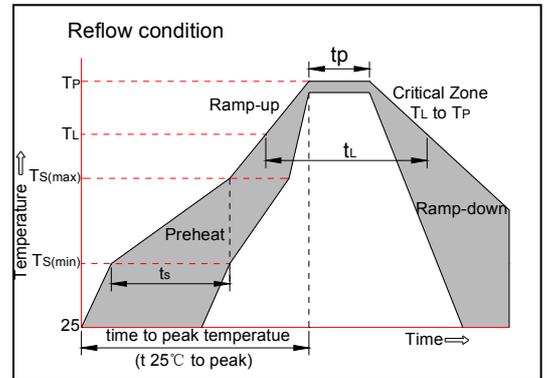


FIG.5: Pulse derating curve(10/1000μs)



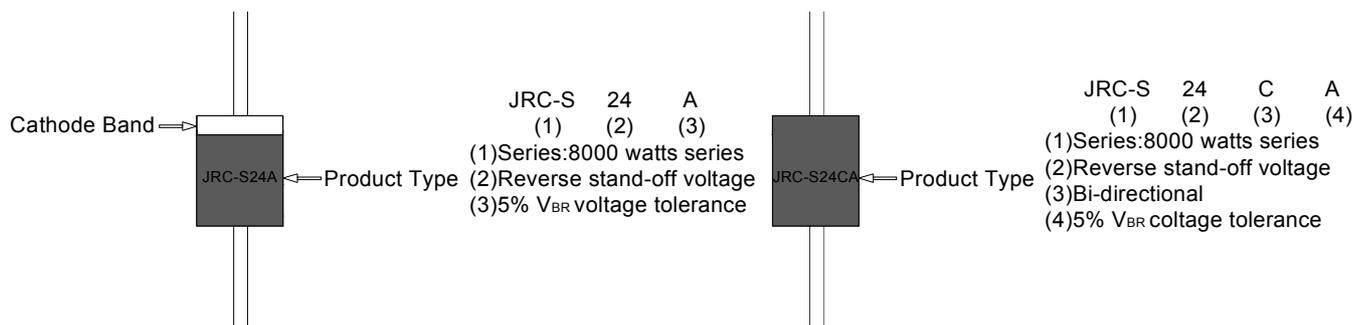
SOLDERING PARAMETERS

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

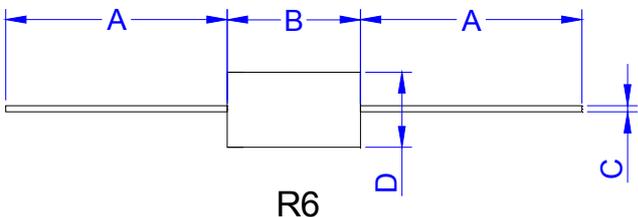


Flow/Wave Soldering(Solder Dipping)	
Peak temperature	265°C
Dipping time	10 sec.
Soldering	1 time

MARKING & ORDERING INFORMATION



PACKAGE MECHANICAL DATA

	Ref.	Dimensions			
		Millimeters		Inches	
		Min.	Max.	Min.	Max.
	A	25.40	-	1.000	-
	B	8.60	9.40	0.339	0.370

PART No.	UNIT WEIGHT (g/PCS) typ.	CASE TYPE	QUANTITY (PCS)	PACKING OPTION
JRC-S24A/CA	2.55	R6/P600	300	Box

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