KUUP0080TA THRU KUUP3500TA

Thyristor Surge Protection Devices

Datasheet

Description

TSS Series are designed to protect baseband equipment such as modems, line cards, CPE and DSL equipments from damaging overvoltage transients. The series provide a robust peak surge current capability which enables equipments to comply with global regulatory standards.

Applications

- Audio/Video line
- Network and telecom
- Data lines and security systems
- Serial ports

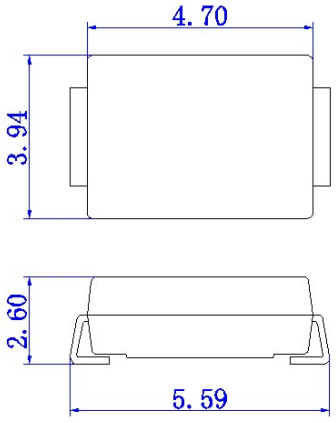
Features

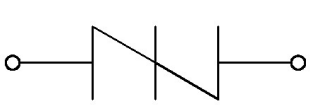
- Low voltage overshoot
- Low on-state voltage
- Low capacitance
- Low leakage current
- High reliability
- Quick response to surge voltage (ns Level)
- Does not degrade in capability after multiple surge events within limit.
- Low capacitance
- Fails short circuit when surged in excess of ratings

Mechanical Characteristics

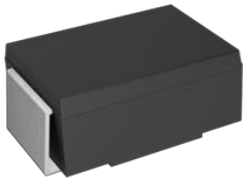
- Package: SMA/DO-214AC
- Case Material:Molded Plastic. UL Flammability Classification Rating 94V-0 .RoHS compliant
- Moisture Sensitivity: Meet MSL 1
- Terminal：Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode except bi-directional models
- Weight: 0.09g(approximate)

Dimensions & Symbol（Unit: mm Max）





Bi-directional



Electrical Characteristics (T=25℃)

Part Number	Marking Code	I_{DRM}@V_{DRM}		V_S @I_S		V_T@ I_T		I_H	C_O
		μA	V	V	mA	V	A	mA	pF
		max	min	max	max	max	max	min	max
KUUP0080TA	P008A	5	6	25	800	4	2.2	20	30
KUUP0150TA	P01A	5	14	20	800	4	2.2	20	40
KUUP0220TA	P02A	5	18	30	800	4	2.2	20	60
KUUP0300TA	P03A	5	25	40	800	4	2.2	50	60
KUUP0640TA	P06A	5	58	77	800	4	2.2	100	60
KUUP0720TA	P07A	5	65	88	800	4	2.2	100	50
KUUP0900TA	P09A	5	75	98	800	4	2.2	100	50
KUUP1100TA	P11A	5	90	130	800	4	2.2	100	50
KUUP1300TA	P13A	5	120	160	800	4	2.2	100	45
KUUP1500TA	P15A	5	140	180	800	4	2.2	100	45
KUUP1800TA	P18A	5	170	220	800	4	2.2	100	35
KUUP2000TA	P20A	5	180	220	800	4	2.2	100	35
KUUP2300TA	P23A	5	190	260	800	4	2.2	100	35
KUUP2600TA	P26A	5	220	300	800	4	2.2	100	35
KUUP3100TA	P31A	5	275	350	800	4	2.2	100	35
KUUP3500TA	P35A	5	320	400	800	4	2.2	100	35

Notes:

- *All measurements are made at an ambient temperature of 25℃. I_{PP} applies to -40℃ through +85℃ temperature range.*
- *Off-state capacitance (C_O) is measured at 1 MHz with a 2 V bias and is typical val*

Absolute Maximum Ratings(T=25ºC, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating junction temperature range	T_j	-40 to +125	℃
Storage temperature range	T_{stg}	-65 to +150	℃
Repetitive peak pulse Voltage(10/700uS)	V_{PP}	2000	V

Typical Characteristics

FIG1：V-I cure characteristics

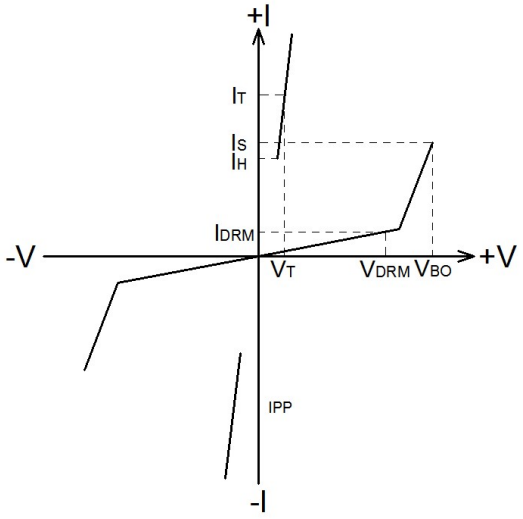


FIG2：Pulse Waveform

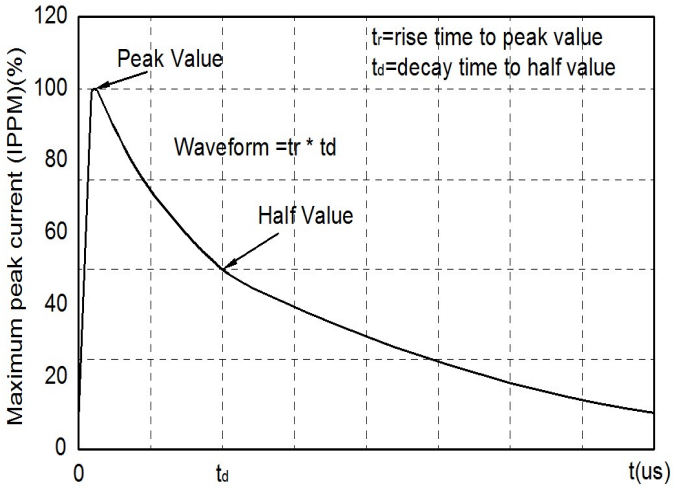


FIG3：Normalized Vs change vs.junction temperature

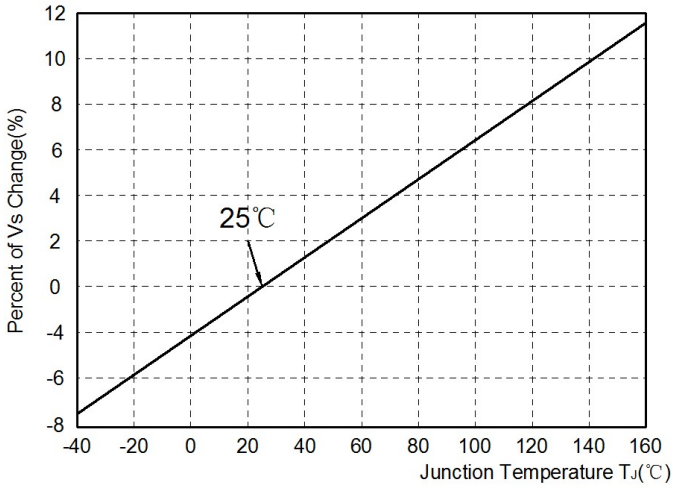
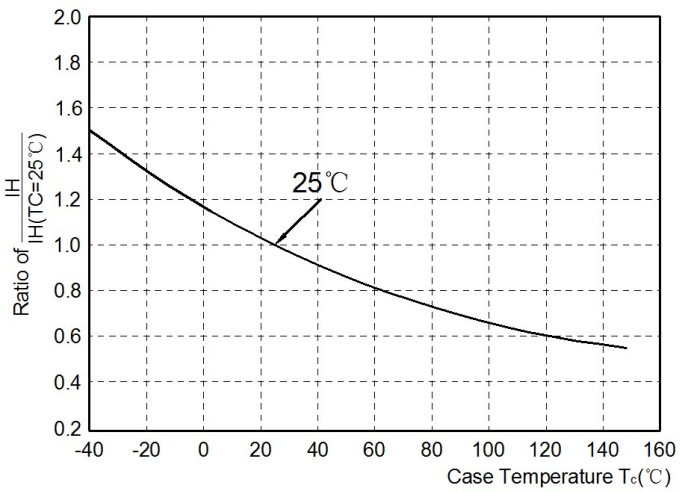
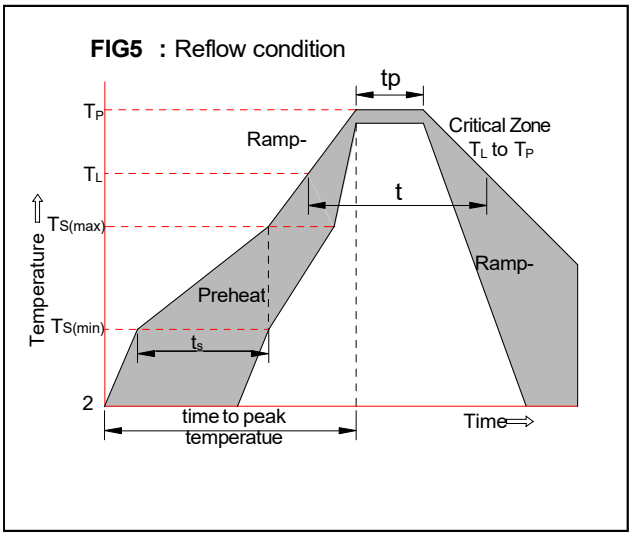


FIG4：Normalized DC holding current vs.case temperature

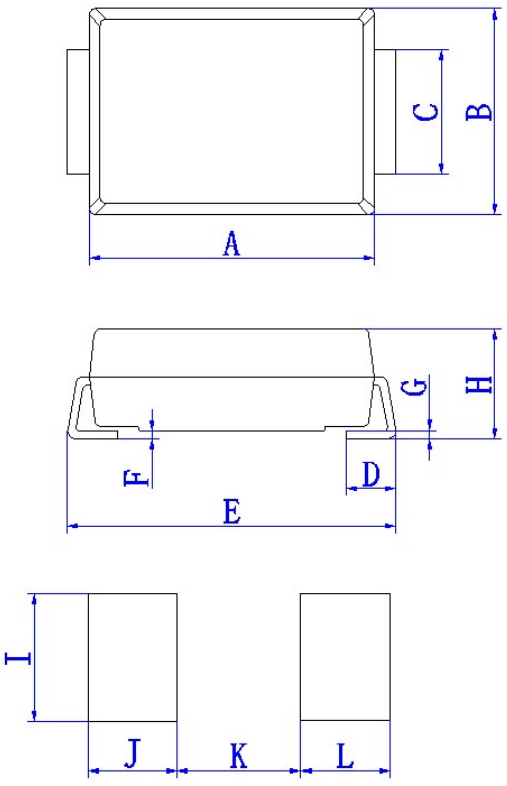


Soldering parameters

Reflow Condition		Pb-Free assembly (see as bellow)
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 (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃ of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃



Package mechanical data



Ref.(mm)	Millimeters	
	Min.	Max.
A	3.99	4.50
B	2.50	2.90
C	1.20	1.70
D	0.76	1.52
E	4.93	5.28
F	0	0.20
G	0.15	0.25
H	1.98	2.41
I	1.50	1.70
J	1.40	1.60
K	2.30	2.50
L	1.40	1.60