

FEATURES

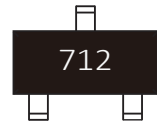
- | 400W Peak Pulse Power per Line ($t_p=8/20\mu s$)
- | Protects two +12V to -7V lines
- | Low clamping voltage
- | Moisture sensitivity level: Level 1
- | Weight 8 Milligrams (Approximate)
- | Meet AEC-Q101 Requirements

APPLICATIONS

- | Protection of RS-485 transceivers with extended common-mode range
- | Security systems
- | Automatic Teller Machines
- | HFC systems
- | Networks



SOT-23



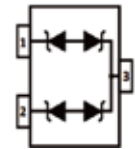
Marking

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) $\pm 25kV$ (air), $\pm 25kV$ (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

APPROVALS

- | | |
|-------------|------------------------------------|
| RoHS | Compliance with 2011/65/EU |
| HF | Compliance with IEC61249-2-21:2003 |



Schematic Symbol

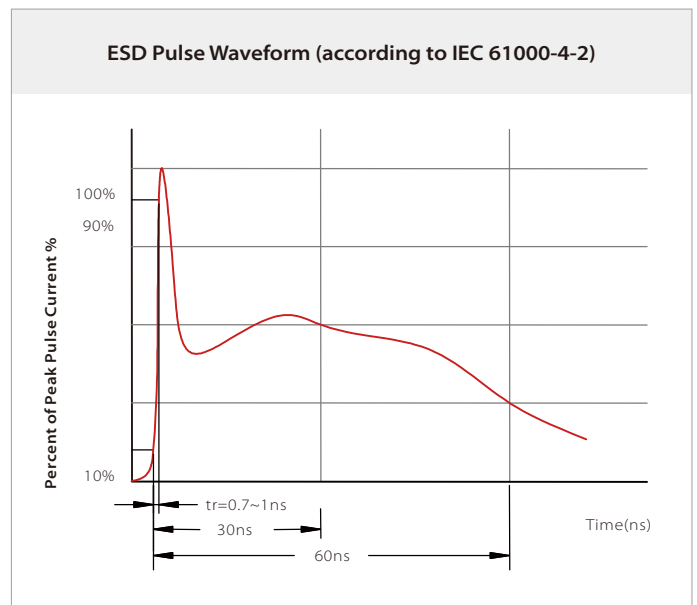
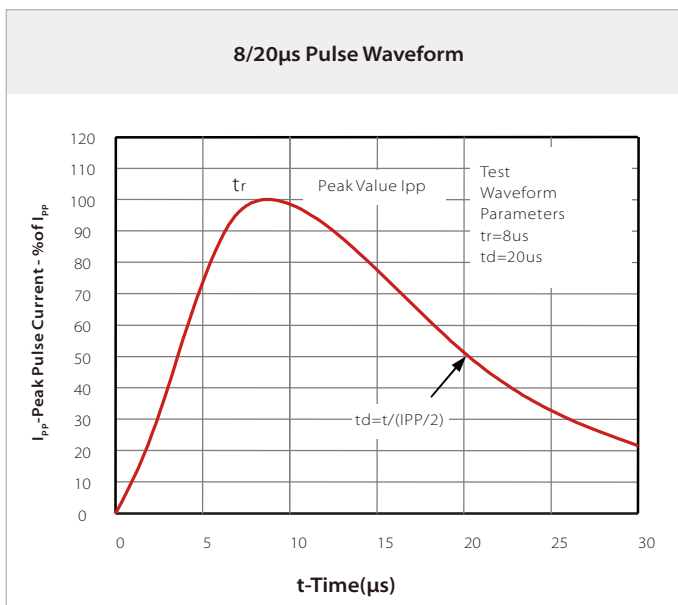
THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
P_{PP}	Peak Pulse Power ($t_p=8/20\mu s$ waveform)	400	Watts
T_J	Operating Temperature Range	-55 to +150	$^{\circ}C$
T_{STG}	Storage Temperature Range	-55 to +150	$^{\circ}C$
T_L	Lead Soldering Temperature	260(10 sec.)	$^{\circ}C$

ELECTRICAL CHARACTERISTICS

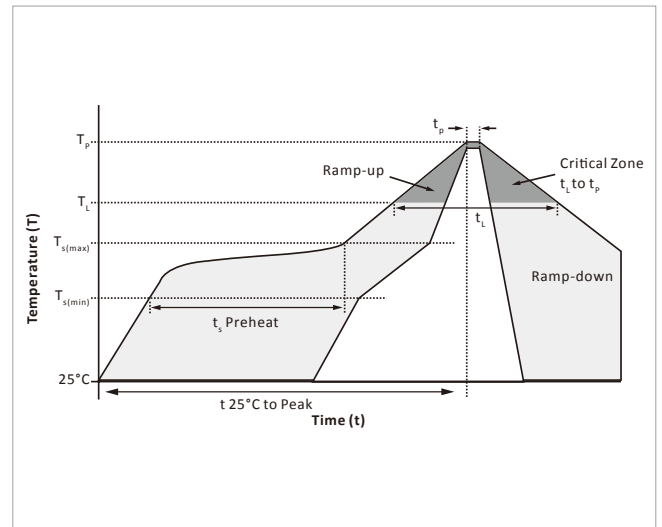
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Stand-off Voltage	Pin 3-1 & Pin 3-2			7	V
		Pin 1-3 & Pin 2-3			12	
V_{BR}	Reverse Breakdown Voltage	Pin 3-1 & Pin 3-2	$I_T=1mA$	7.5		V
		Pin 1-3 & Pin 2-3		13.3		
I_R	Reverse Leakage Current	Pin 3-1 & Pin 3-2	$V_{RWM}=7V$		10	μA
		Pin 1-3 & Pin 2-3	$V_{RWM}=12V$		1	
V_C	Clamping Voltage ($T_p=8/20\mu s$)	Pin 3-1 & Pin 3-2	$I_{pp}=5A, t_p=8/20\mu s$		10	V
		Pin 1-3 & Pin 2-3		20		
V_C	Clamping Voltage ($T_p=8/20\mu s$)	Pin 3-1 & Pin 3-2	$I_{pp}=17A, t_p=8/20\mu s$		12	V
		Pin 1-3 & Pin 2-3		26		
I_{pp}	Peak Pulse Current ($T_p=8/20\mu s$)	Pin 3-1 & Pin 3-2	$t_p=8/20\mu s$		17	A
		Pin 1-3 & Pin 2-3				
C_J	Off State Junction Capacitance	Pin 3-1 & Pin 3-2	$V_R=0V, f=1MHz$	55		pF
		Pin 1-3 & Pin 2-3				

CHARACTERISTIC CURVES

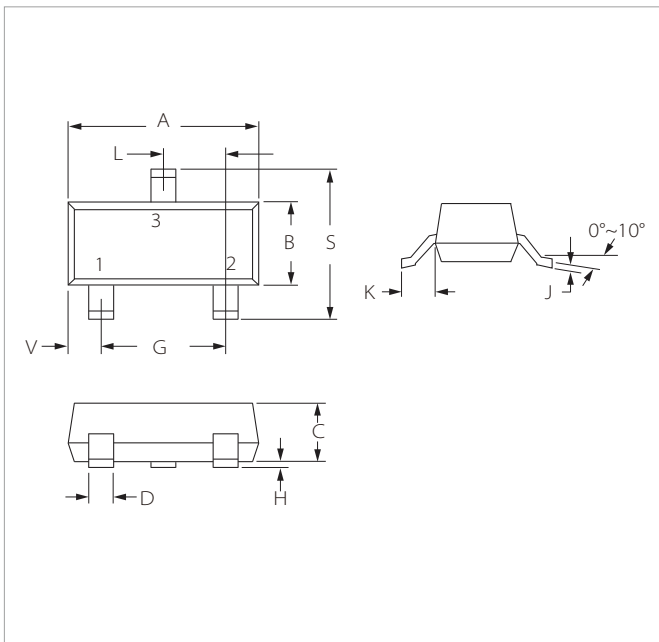


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_p)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

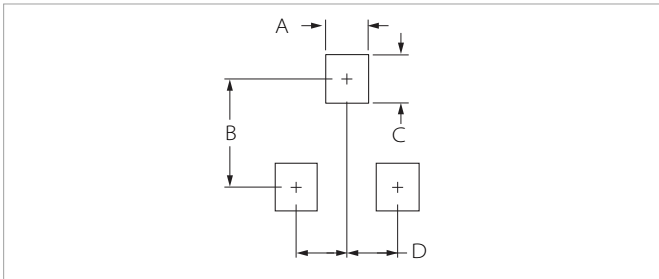


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.89	1.11	0.035	0.044
D	0.37	0.50	0.015	0.020
G	1.78	2.04	0.070	0.081
H	0.01	0.10	0.001	0.004
J	0.08	0.18	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.64	0.083	0.104
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
TPSE23T40B712B	SOT-23	3000PCS	7"

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