



**ZBMCC**

ZIBO MICRO COMMERCIAL  
COMPONENTS CORP.



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# SM712

## ESD Protection Device

### Features

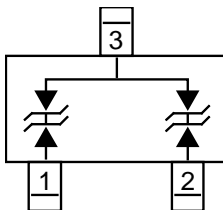
- Halogen free available upon request by adding suffix "-HF"
- For sensitive ESD protection
- Excellent clamping capability
- Low leakage
- ESD rating of class 3(>16KV)per Human Body Mode
- Fast response ,response time less than 1ns.
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

### Maximum Ratings

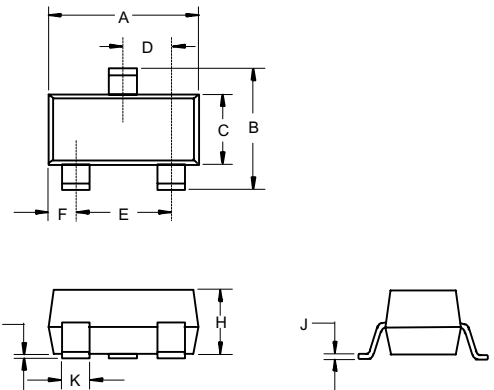
- Operating Junction &StorageTemperature: -55°C to +150°C
- Marking: B712

Parameter	Symbol	Limits	unit
IEC61000-4-2(ESD) Air Contact		$\pm 15$ $\pm 8$	KV
ESD Voltage per human body mode		16	KV
Peak Pulse Power(8/20us)	Ppk	400	w

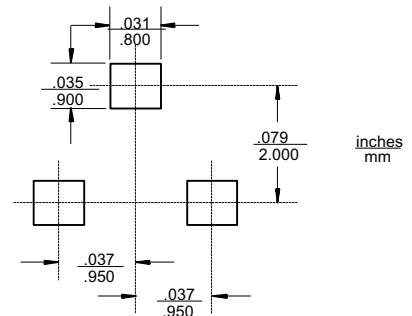
### Pin Configuration-Top View



### SOT-23

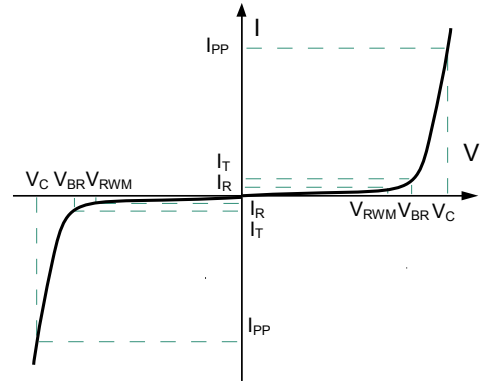


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	



**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
C	Capacitance @ $V_R=0$ and $f=1\text{MHz}$



Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	$V_{RWM}$	Pin 1 or Pin 2 to Pin 3			12	V
		Pin 3 to Pin 1 or Pin 2			7	
Reverse Breakdown Voltage	$V_{BR}$	Pin 1 or Pin 2 to Pin 3 $I_t = 1\text{mA}$	13.3			V
		Pin 3 to Pin 1 or Pin 2 $I_t = 1\text{mA}$	7.5			
Reverse Leakage Current	$I_R$	Pin 1 or Pin 2 to Pin 3 $V_{RWM} = 12\text{V}$			1.0	$\mu\text{A}$
		Pin 3 to Pin 1 or Pin 2 $V_{RWM} = 5\text{V}$			1.0	
Clamping Voltage	$V_C$	Pin 1 or Pin 2 to Pin 3 $I_{PP} = 5\text{A}$			21	V
		Pin 3 to Pin 1 or Pin 2 $I_{PP} = 5\text{A}$			10.5	
Junction Capacitance	$C_j$	$V_R=0\text{V}$ $f = 1\text{MHz}$		45		pF



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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

**\*\*\*LIFE SUPPORT\*\*\***

ZBMCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of ZiBo Micro Commercial Components Corp.

**\*\*\*CUSTOMER AWARENESS\*\*\***

Counterfeiting of semiconductor parts is a growing problem in the industry. ZiBo Micro Commercial Components Corp. is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. ZBMCC strongly encourages customers to purchase ZBMCC parts either directly from ZBMCC or from Authorized ZBMCC Distributors who are listed by country on our web page cited below. Products customers buy either from ZBMCC directly or from Authorized ZBMCC Distributors are genuine parts, have full traceability, meet ZBMCC's quality standards for handling and storage. ZBMCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources. ZBMCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.