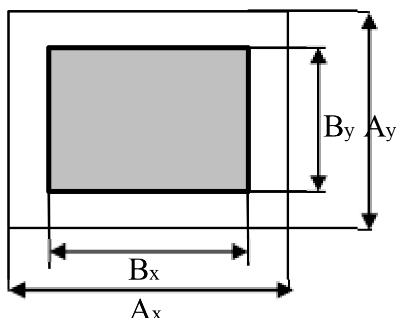
VSP-MIKRON

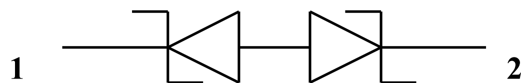
RoHS

Rev.3. March 2014.

SMB-05L21, SMB-05L22, SMB-05L23

Chip Bi - directional TVS diode in wafer form, 4 inch.





Schematic and pinning diagram.

Mechanical data: A_x=430um, A_y=380um.

B_x=230um, B_y=180um

Chip thickness: a) 138+/-12um – for SMB-05L21;
b) 230+/-20um – for SMB-05L22;
c) 470+/-20um – for SMB-05L23.

Scribe Line width - 60um.

Top Metal: Al - for wire bonding, d=2.2+/-0.2 um.

Back side: a) Ti-Ni-Ag for soldering –for SMB-05L21, SMB-05L22.
б) without metallization – for SMB-05L23.

Top Side - pin 1, **Back Side** - pin 2.

Probing: **a) sampling testing:** no bad dice inking;
guaranteed good dice quantity≥95%.
b) 100% testing (if agreed with customer): wafer mapping data;
no bad dice inking.

Limiting values

Parameter	Symbol	Conditions	Value	Unit
Reverse Stand-off voltage	V_{RWM}	-	5	V
Peak Pulse Power	P_{pp}	t_p=8/20us	130*	W
Peak Pulse Current	I_{pp}	t_p=8/20us	12*	A
Electrostatic Discharge	V_{ESD}	IEC 61000-4-2, level 4.	+/-8 (Contact); +/-15 (Air).	kV
Max.junction temperature	T_j	-	+150	ºC

Characteristics (Tj=25ºC)

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_{BR}	Breakdown voltage. Pin 1 to 2.	I_R=1mA	5.6	-	9.4	V
I_R	Reverse leakage current.	V=±5V	-	-	90	nA
V_{CL}	Clamping Voltage	I_{pp}=1A, t_p=8/20us I_{pp}=12A, t_p=8/20us	-	-	10* 14*	V
C_J	Diode capacitance. Pin 1 to 2.	V_R=0 V, f=1MHz	-	24	30	pF

* For Device testing.