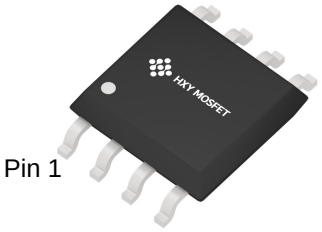
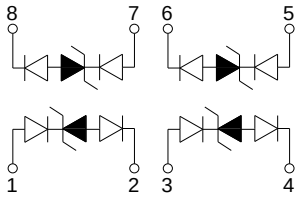
STSP84028U120
ESD PROTECTION DIODE

Discription

The STSP84028U120 protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.



SOP-8



Circuit Diagram

Features

- 550W peak pulse power (8/20μs)
- Protects two line pairs (four lines)
- Ultra low leakage: nA level
- Low operating voltage: 2.8V
- Very low capacitance:1pF
- Ultra low clamping voltage
- JEDEC SOP-8 package
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - – IEC61000-4-5 (Lightning) 30A (8/20μs)
- RoHS Compliant

Ordering Information

Product ID	Pack	Qty(PCS)
STSP84028U120	SOP-8	3000

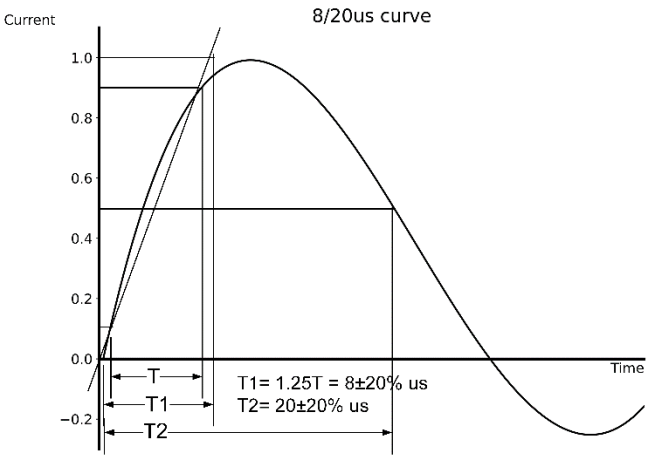
Absolute Ratings(Tamb = 25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20μ s)	550	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-55 to +150	°C
T_{op}	Operating Temperature Range	-55 to +150	°C
T_j	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD) air discharge contact discharge	± 30 ± 30	KV
	IEC61000-4-4 (EFT)	40	A

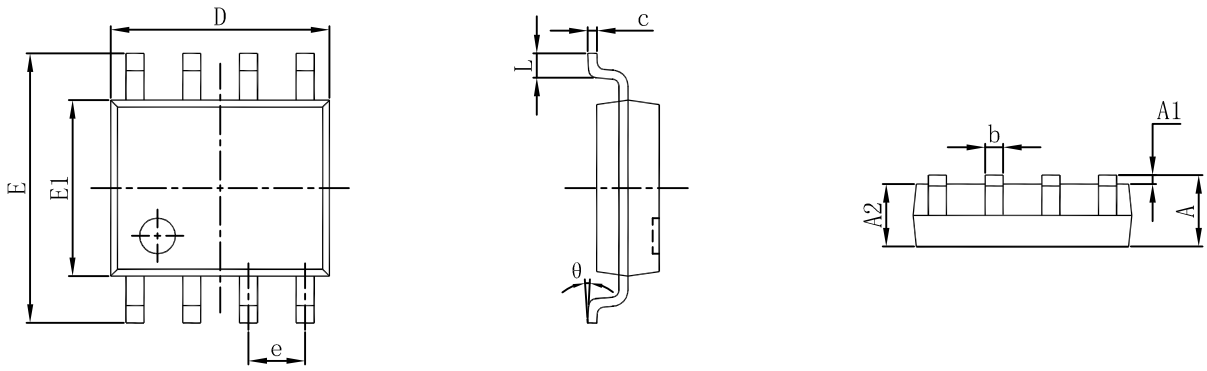
Electrical Characteristics Ratings at 25°C

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			2.8	V	
Breakdown Voltage	V_{BR}	3.0			V	I_T = 2μA
	V_{SB}	3.0			V	I_{SB}= 50mA
Reverse Leakage Current	I_R			1	μA	V_{RWM} = 2.8V
Clamping Voltage	V_C		6		V	I_{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V_C		16		V	I_{PP} = 30A (8 x 20μs pulse)
Junction Capacitance	C_J		1		pF	VR = 0V, f = 1MHz

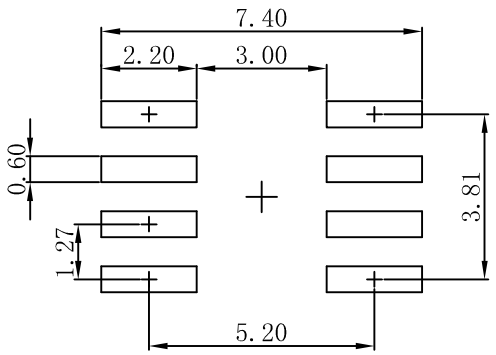
Typical Characteristics



SOP-8 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	**Max**	**Min**	**Max**
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.800	5.000	0.189	0.197
e	1.270 (BSC)		0.050 (BSC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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TPSMB100CA-VR HOPA2340UA IRLML6246PBF MMBT3904T SS1045 TPSMB28A-VR SS5150B
SS10100 HT7150 HT7540-1 P6SMB200A HMCP602-I/SN HXY8205ES MAX487ESA SD15C
BZT52C3V3S DTC143ZE HAD8542ARZ HC4D20120A HC3D10170A HESDNC5VB1AF-B HXY2101EI