

## DESCRIPTION

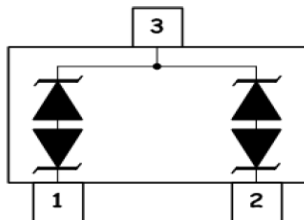
The KPESDxxS2BT is designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines, communication systems, medical equipment and other applications. These devices are ideal for situations where board space is at a premium.

This series has been specifically designed to protect sensitive components which are connected to power, data and transmission lines from overvoltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events),and EFT (electrical fast transients).

## ORDERING INFORMATION

- ✧ Device:KPESDxxS2BT
- ✧ Package: SOT-23
- ✧ Material: Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 3,000pcs

## PIN CONFIGURATION



## FEATURES

- ✧ IEC61000-4-2 (ESD)  $\pm 15\text{kV}$  (air),  $\pm 8\text{kV}$  (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ 350 Watts Peak Pulse Power per (tp=8/20 $\mu\text{s}$ )
- ✧ Protects two bidirectional lines
- ✧ Low clamping voltage
- ✧ Working voltages : 3.3V to 36V
- ✧ Low leakage current

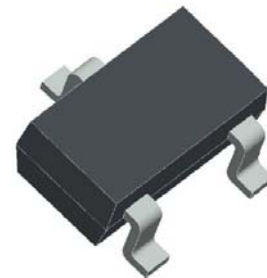
## MACHANICAL DATA

- ✧ SOT-23 package
- ✧ Flammability Rating: UL 94V-0
- ✧ Packaging: Tape and Reel
- ✧ High temperature soldering guaranteed:260°C /10s
- ✧ Reel size: 7 inch
- ✧ MSL 1

## APPLICATIONS

- ✧ Cell Phone Handsets and Accessories
- ✧ Microprocessor based equipment
- ✧ Personal Digital Assistants (PDA's)
- ✧ Notebooks, Desktops, and Servers
- ✧ Portable Instrumentation
- ✧ Networking and Telecom
- ✧ Serial and Parallel Ports.
- ✧ Peripherals

## PACKAGE OUTLINE



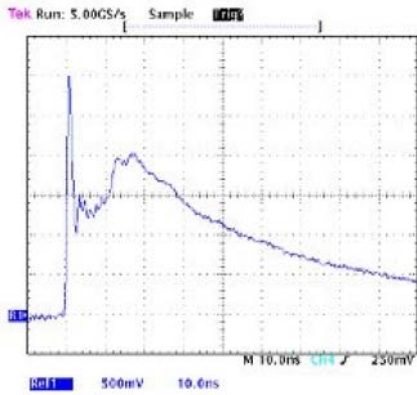
### ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
$V_{ESD}$	ESD per IEC 61000-4-2 (Air)	$\pm 15$	kV
	ESD per IEC 61000-4-2 (Contact)	$\pm 8$	
$P_{PP}$	Peak Pulse Power (8/20 $\mu$ s)	350	W
$T_{OPT}$	Operating Temperature	-55/+150	°C
$T_{STG}$	Storage Temperature	-55/+150	°C
$T_L$	Lead Soldering Temperature	260 (10 sec.)	°C

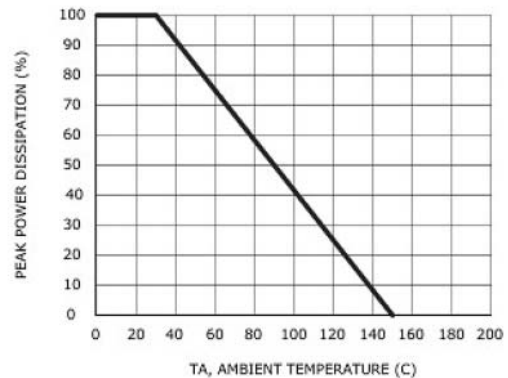
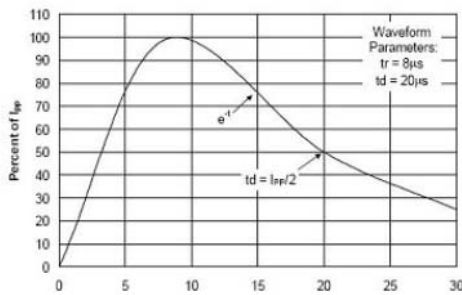
### ELECTRICAL CHARACTERISTICS (Tamb=25°C)

PART NUMBER	DEVICE MARKING	$V_{RWM}$ (V) (max.)	$V_B$ (V) (min.)	$I_T$ (mA)	$V_{C@1A}$ (V) (max.)	$V_C$ (V)		$I_R$ ( $\mu$ A) (max.)	$C_J$ (pF) (max.)
						(max.)	(@A)		
KPESD3V3S2BT	C03	3.3	4.0	1	7.5	16.0	20	40	450
KPESD5V0S2BT	C05	5.0	6.0	1	9.8	18.0	17	10	200
KPESD8V0S2BT	C08	8.0	8.5	1	13.4	24.0	15	2	120
KPESD12VS2BT	C12	12.0	13.3	1	19.0	32.0	11	1	75
KPESD15VS2BT	C15	15.0	16.7	1	24.0	38.0	10	1	68
KPESD18VS2BT	C18	18.0	20.0	1	29.0	45.0	9	1	57
KPESD20VS2BT	C20	20.0	22.3	1	35.0	50.0	8	1	52
KPESD24VS2BT	C24	24.0	26.7	1	43.0	52.0	7	1	50
KPESD36VS2BT	C36	36.0	40.0	1	60.0	75.0	4.5	1	35

**ELECTRICAL CHARACTERISTICS CURVE**

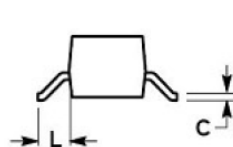
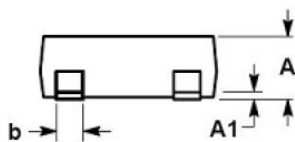
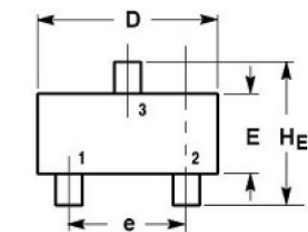


**Pulse Waveform**



**Power Derating Curve**

**SOT-23 PACKAGE OUTLINE DIMENSIONS**



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104