

## Single Channel Low Capacitance ESD Protection Diode Array

HYESD2045FN2 is a single-channel ultra low capacitance rail clamp ESD protection diode array which includes surge rated to protect high speed data lines. Each channel consists of a pair of ESD diodes that steer positive or negative ESD current to either the positive or negative rail. Typical application, the negative rail pin is connected with system ground. The Positive ESD current is steered to the ground through the internal zener diode to protect the power supply of the circuit protected.

### FEATURES

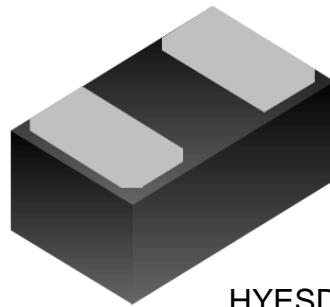
- Single Channel ESD protection
- Provides ESD protection to IEC61000-4-2 level 4
  - $\pm 15$ KV Air Discharge
  - $\pm 10$ KV Contact Discharge
- Ultra low capacitance 0.9pF ( Max )
- Low clamping voltage & 5V operation voltage

### APPLICATION

- Cellular Handsets & Accessories
- Digital Cameras
- Flat Panel Monitors / TVs
- Cellular Handsets & Accessories
- Notebooks

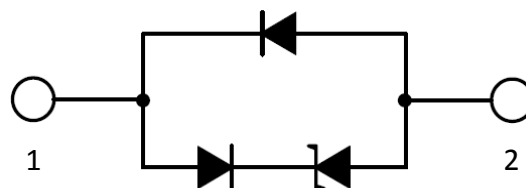
### MECHANICAL INFORMATION

- Case : DFN-2-1.0x0.6x0.5 Package
- Pb-Free, Halogen Free, RoHS/WEEE Compliant



HYESD2045FN2  
DFN-2

### PIN CONFIGURATION



**Maximum Rating and Thermal Characteristics (  $T_C=25^\circ\text{C}$  )**

Parameter	Symbol	Value	Unit
Peak Pulse Power(8/20 $\mu\text{s}$ )	$P_{PP}$	120	W
Peak Pulse Current(8/20 $\mu\text{s}$ )	$I_{PP}$	5	A
ESD per IEC 61000-4-2(Air)	$V_{ESD}$	$\pm 15\text{KV}$	V
ESD per IEC 61000-4-2(Contact)	$V_{ESD}$	$\pm 10\text{KV}$	V
Operating Temperature Range	$T_{op}$	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics (  $T_C=25^\circ\text{C}$ , unless otherwise noted )**

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	$V_{RWM}$	I/O pin to GND	-	-	5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR}=1\text{mA}$ ; I/O pin to GND	6	-		V
Reverse Leakage Current	$I_R$	$V_{RWM}=5\text{V}$ , $T=25^\circ\text{C}$ ; I/O pin to GND	-	-	1	$\mu\text{A}$
Positive Clamping Voltage	$V_C$	$I_{PP}=1\text{A}$ , $t_p=8/20\mu\text{s}$ ; Positive pulse; I/O pin to GND	-	8.5	12	V
Negative Clamping Voltage	$V_C$	$I_{PP}=1\text{A}$ , $t_p=8/20\mu\text{s}$ ; Negative pulse; I/O pin to GND	-	1.8	-	V
Junction Capacitance Between I/O And GND	$C_J$	$V_R=0\text{V}$ , $f=1\text{MHz}$ ; I/O pin to GND	-	0.5	0.9	$\text{pF}$