

## BI-DIRECTIONAL TRANSIENT VOLTAGE SUPPRESSING DIODES

### ◆ DESCRIPTIONS

The CMTLDF02C6R0BLE is a Bi-directional transient voltage Suppressing diodes to protect one power line, or one control line, or one low speed data line from overvoltage hazard of Electrostatic Discharge(ESD), Electrical Fast Transients(EFT) and Lightning.

The CMTLDF02C6R0BLE`S typical applications are Computer Interfaces Protection, Microprocessors Protection, Control Signal Lines Protection etc.

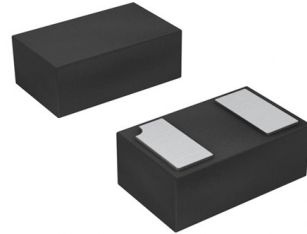
### ◆ FEATURES

- 1、 Bi-directional TVS;
- 2、 Provides ESD protection to IEC61000-4-2 level 4:  
 $\pm 15\text{kV}$  (air discharge);  
 $\pm 8\text{kV}$  (contact discharge);
- 3、 Ultra-small body with DFN1006-2 package;
- 4、 Fast response speed  $< 1\text{ ns}$ ;
- 5、 Low clamping voltage;
- 6、 Low operating voltage;
- 7、 RoHS compliant.

### ◆ ORDERING INFORMATION

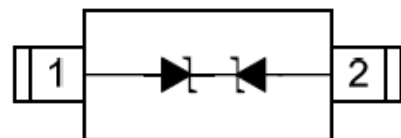
Part No.	Package	Material	Packing
CMTLDF02C6R0BLE	DFN1006-2	Halogen free	Tape

### ◆ Circuit Diagram



DFN1006-2

### ◆ Pin Configuration



### ◆ APPLICATIONS

- 1、 Computer Interfaces Protection;
- 2、 Microprocessors Protection;
- 3、 Control Signal Lines Protection;
- 4、 Serial and Parallel Ports Protection;
- 5、 power lines on PCB Protection;
- 6、 Latchup Protection.

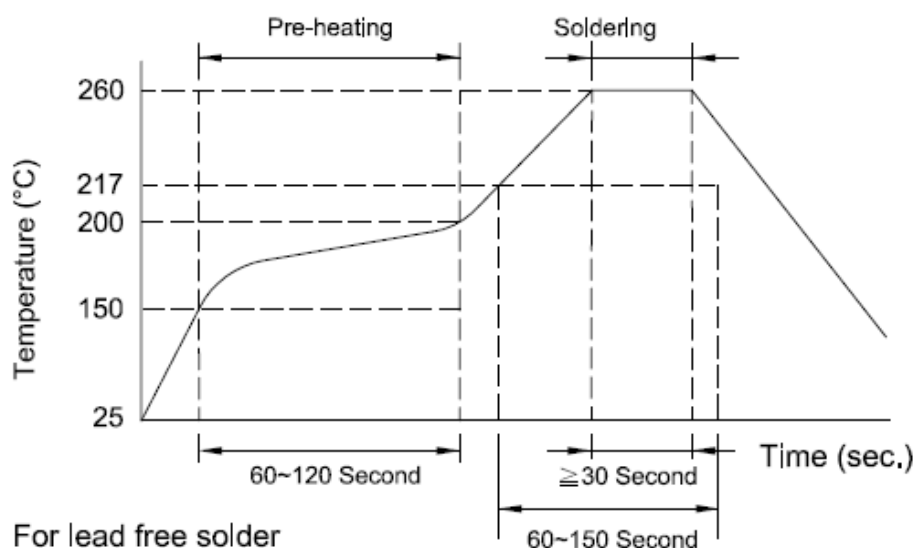
◆ **ABSOLUTE MAXIMUM RATINGS**

Characteristics	Symbol	Rating	Unit
Peak Pulse Current (8/20 $\mu$ s)	I <sub>PP</sub>	8.5	A
Operating Supply Voltage	V <sub>DC</sub>	6	V
ESD Per IEC61000-4-2 (air discharge)	V <sub>ESD1</sub>	$\pm$ 15kV	kV
ESD Per IEC61000-4-2 (contact discharge)	V <sub>ESD2</sub>	$\pm$ 8kV	kV
Lead Soldering Temperature	T <sub>SOL</sub>	260(10sec.)	$^{\circ}$ C
Operating Temperature	T <sub>OP</sub>	-55 ~ +125	$^{\circ}$ C
Storage Temperature	T <sub>STO</sub>	-55 ~ +150	$^{\circ}$ C

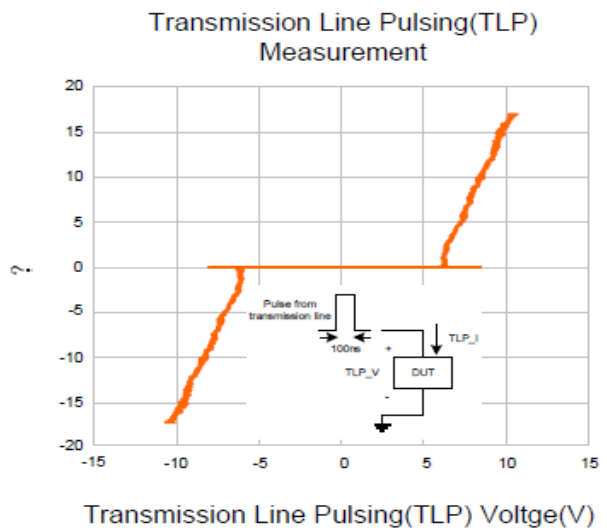
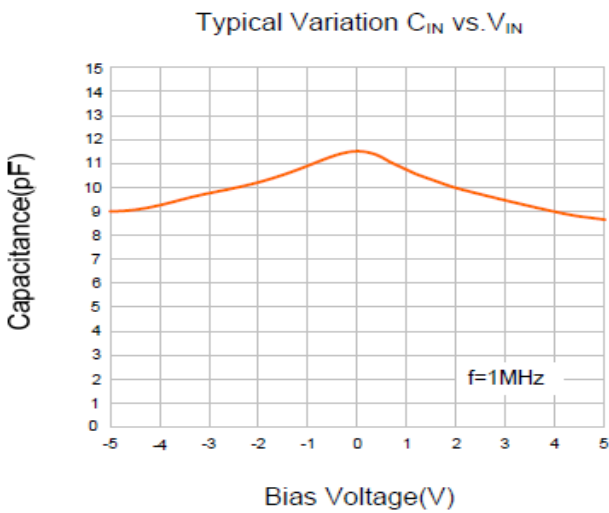
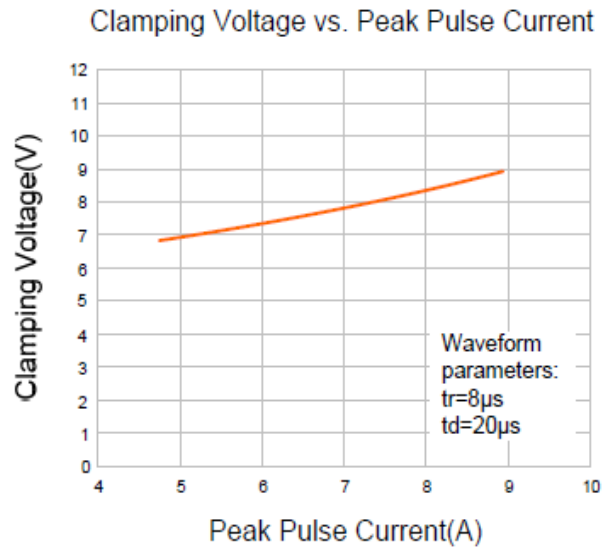
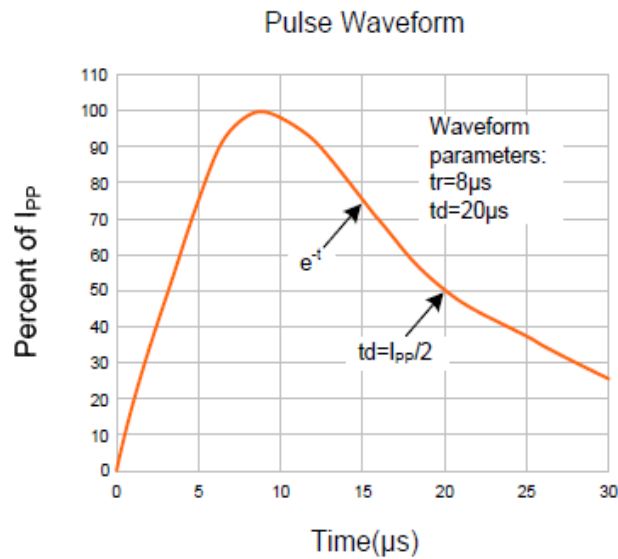
◆ **ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25 $^{\circ}$ C)**

Characteristics	Symbol	Test Condition	Min.	Typ.	Max.	Unit.
Reverse Stand-Off Voltage	V <sub>RWM</sub>	T=25 $^{\circ}$ C			5	V
Reverse Leakage Current	I <sub>Leak</sub>	V <sub>RWM</sub> =5V, T=25 $^{\circ}$ C			2.5	$\mu$ A
Reverse Breakdown Voltage	V <sub>BV</sub>	I <sub>BV</sub> =1mA, T=25 $^{\circ}$ C	6.1		9	V
Clamping Voltage	V <sub>CL</sub>	I <sub>PP</sub> =5A, T <sub>P</sub> =8/20 $\mu$ s, T=25 $^{\circ}$ C		7	8	V
Clamping Voltage	V <sub>CL</sub>	I <sub>PP</sub> =9.4A, T <sub>P</sub> =8/20 $\mu$ s, T=25 $^{\circ}$ C		17	18.6	V
ESD Holding Voltage	V <sub>hold</sub>	IEC 61000-4-2 6KV, T=25 $^{\circ}$ C, Contact mode		10.5		V
Channel Input Capacitance	C <sub>IN</sub>	V <sub>P</sub> =0V, f=1MHz, T=25 $^{\circ}$ C		6.0	13	pF

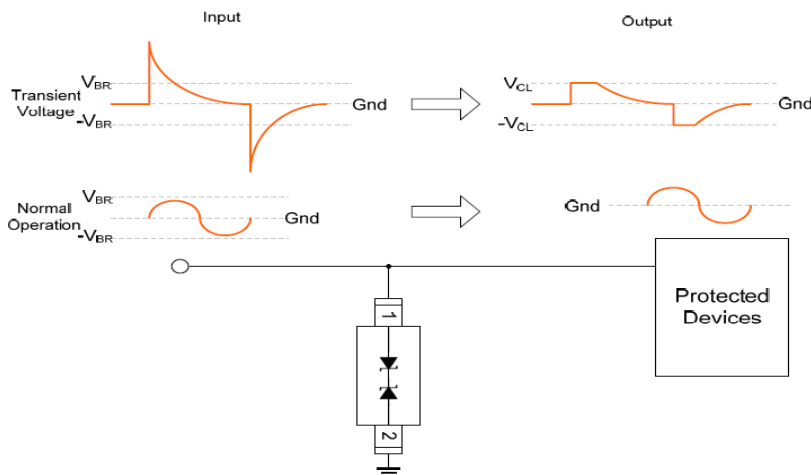
◆ **RECOMMENDABLE REFLOW SOLDERING**



◆ **TYPICAL ELECTRICAL CHARACTERISTICS CURVE**

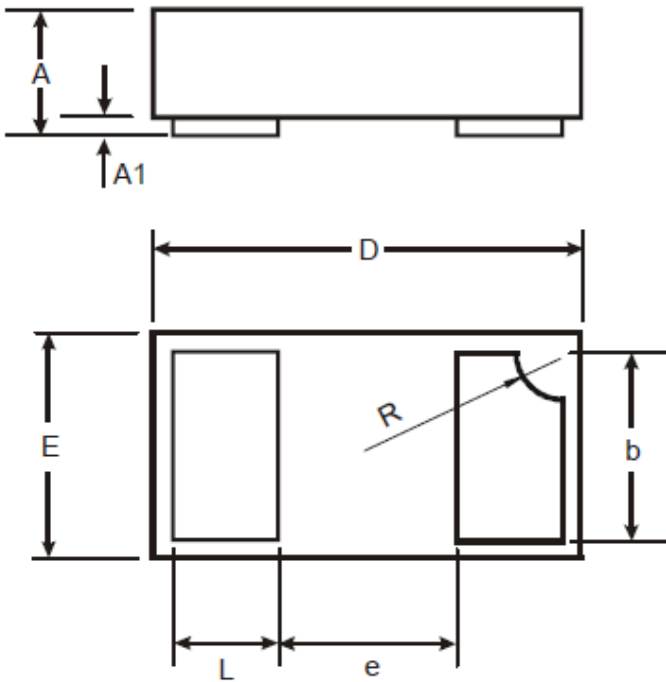


◆ **TYPICAL APPLICATIONS**



◆ PACKAGE OUTLINE

DFN1006-2



DFN1006-2			
Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0	0.05	0.03
b	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	-	-	0.40
L	0.20	0.30	0.25
R	0.05	0.15	0.10
All Dimensions in mm			