

DY2L2A5C0L

For bidirectional ESD protection and transient voltage suppressor

■ Features

- IEC 61000-4-2 (ESD) Contact discharge ± 8 kV
- IEC 61000-4-2 (ESD) Air discharge ± 15 kV
- Low clamping voltage
- Low capacitance
- Low leak current
- Halogen-free / RoHS compliant
(EU RoHS / UL-94 V-0 / MSL: Level 1 compliant)

■ Marking Symbol: FJ

■ Packaging

Embossed type (Thermo-compression sealing) : 20 000 pcs / reel (standard)

■ Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Electrostatic Discharge ^{*1,2}	ESD	-	± 8	kV
Electrostatic Discharge ^{*1,3}	ESD	-	± 15	kV
Peak Pulse Power ^{*1,4}	Ppp	-	16	W
Peak Pulse Current ^{*1,4}	Ipp	-	2.2	A
Operating Junction Temperature ^{*5}	Tj	-	150	°C
Ambient Temperature	Ta	-40	150	°C
Storage Temperature	Tstg	-55	150	°C

Note) *1: Ta = Tj = 25°C

*2: Test method: IEC61000-4-2

(C = 150 pF, R = 330 Ω , Contact discharge: 10 times)

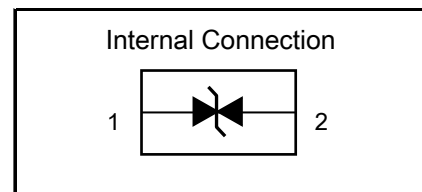
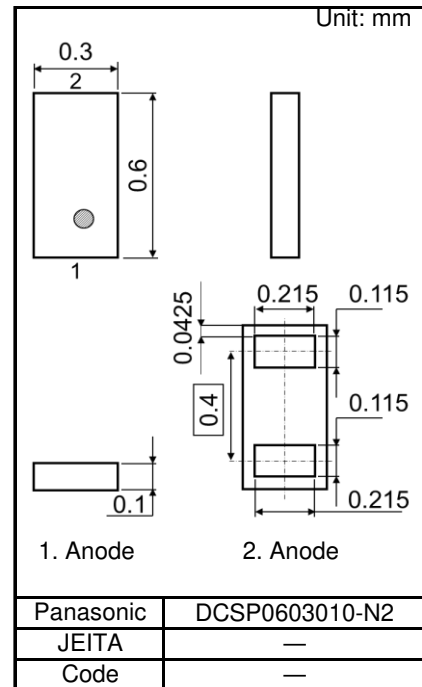
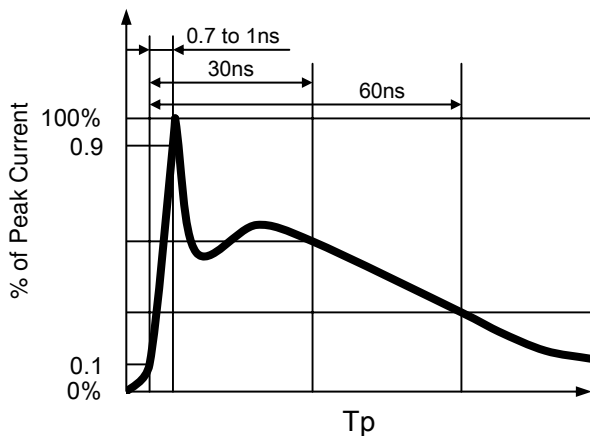
*3: Test method: IEC61000-4-2

(C = 150 pF, R = 330 Ω , Air discharge: 10 times)

*4: Test method: IEC61000-4-5 (Tp = 8/20 μ s, Unrepeated)

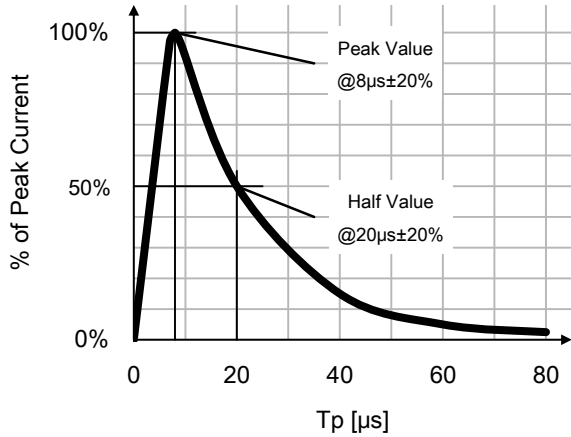
*5: Power derating is necessary so that Tj < 150°C.

(IEC61000-4-2 Pulse)

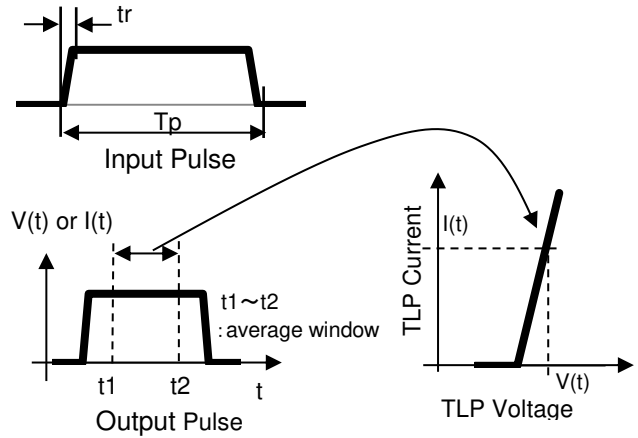




(IEC61000-4-5 Pulse)



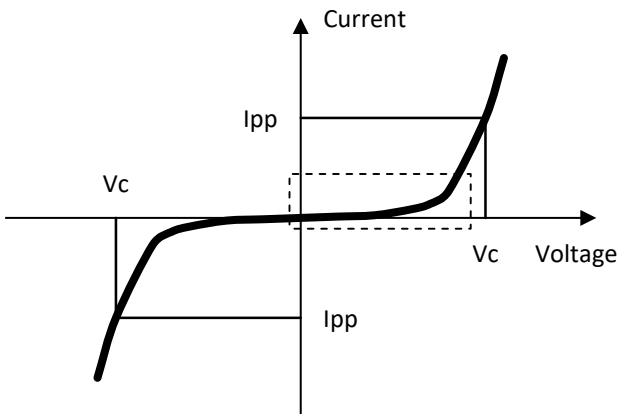
(TLP Pulse)



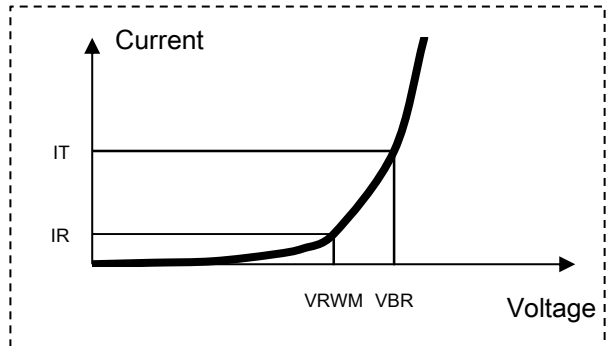
■ Electrical Characteristics Ta = 25°C ± 3°C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	VRWM	-			2.5	V
Reverse Breakdown Voltage *1	VBR	IT = 5 mA	4.74	5.10	5.46	V
Reverse Leakage Current	IR	VR = 2.5 V			35	μA
Clamping Voltage *2	Vc	Ipp = 2.2 A, Tp = 8/20 μs		7.5	9.0	V
Clamping Voltage *3	Vc-TLP	Ipp = 8 A		10.8		V
Clamping Voltage *3	Vc-TLP	Ipp = 16 A		17.5		V
Terminal Capacitance	Ct	VR = 0 V, f = 1 MHz		7.5		pF

- Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.
 2. Absolute frequency of input and output is 5 MHz.
 3. *1: VBR guaranteed 20 ms after current flow.
 *2: conditions : 8/20 μs Pulse Waveform
 *3: conditions : TLP parameter Z = 50 Ω, Tp = 100 ns, tr = 0.2ns, average window t1 = 54.4ns, t2 = 94.4ns



(Magnified figure)

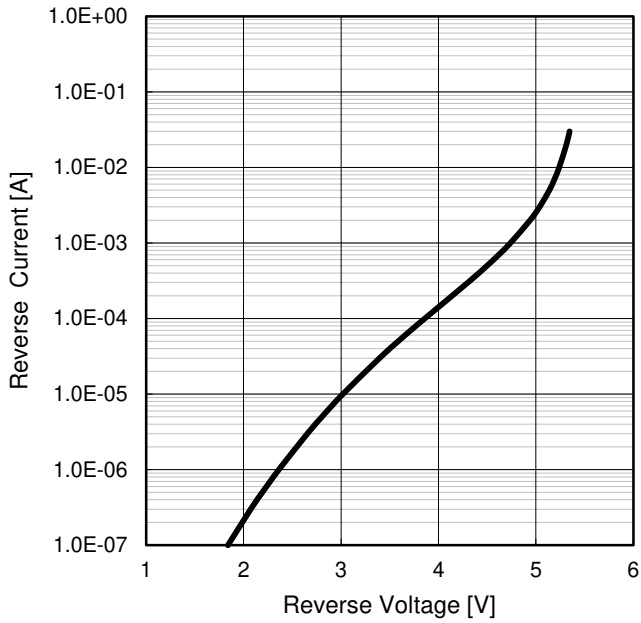


Symbol	Parameter
Ipp	Peak Pulse Current
Vc	Clamping Voltage @ Ipp
IR	Reverse Leakage Current @ VRWM
VRWM	Reverse Stand-off Voltage
IT	Test Current
VBR	Breakdown Voltage @ IT

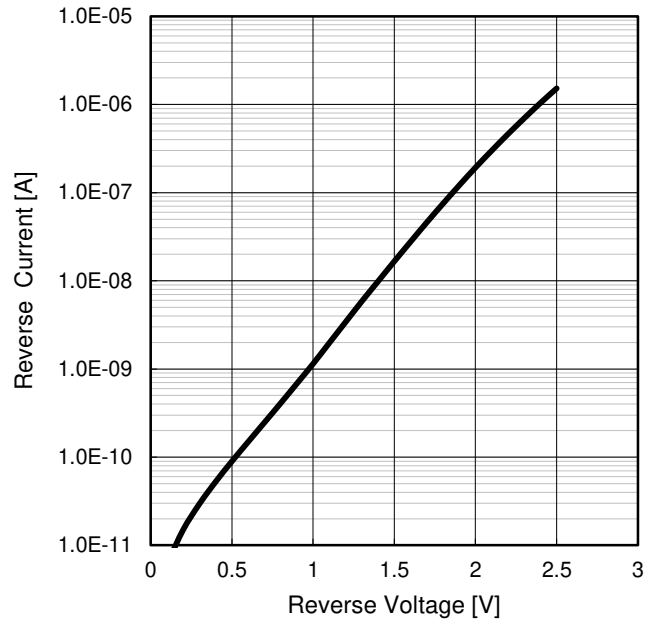


Typical Characteristics at Ta = 25°C, unless otherwise specified

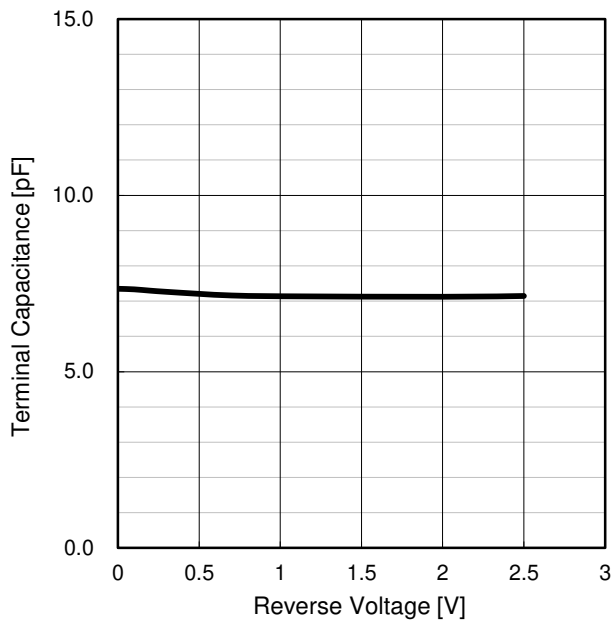
Reverse Breakdown Voltage



Reverse Leakage Current



Terminal Capacitance *1

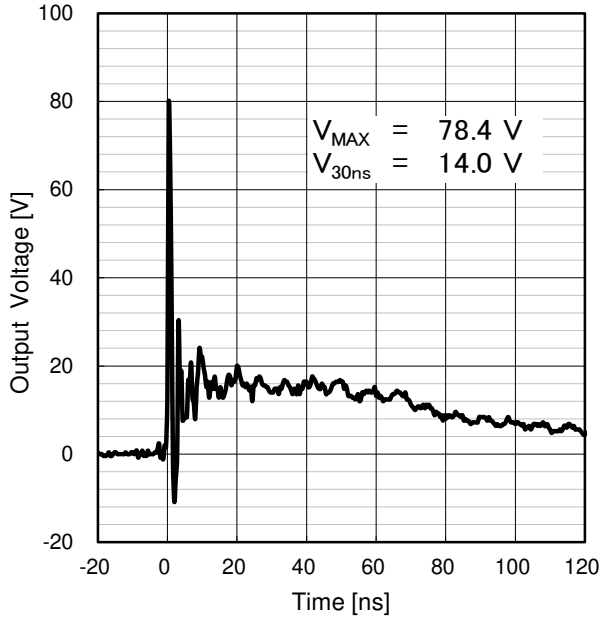


Note) *1: Test Condition : f = 1 MHz



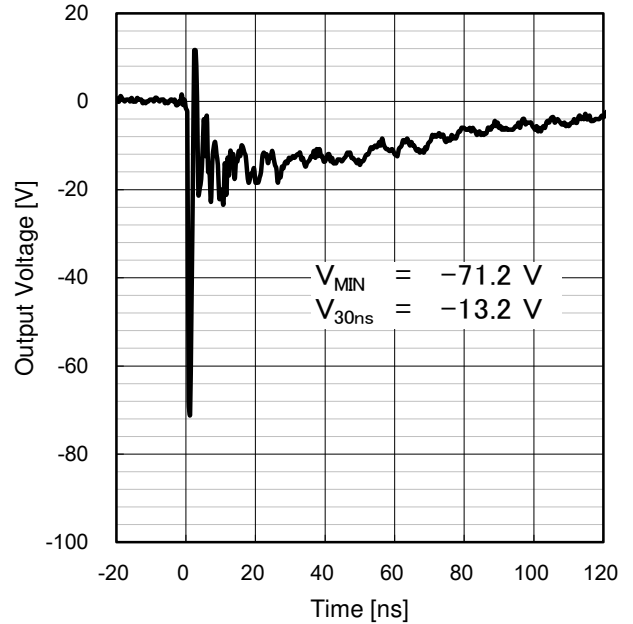
Typical Characteristics at Ta = 25°C, unless otherwise specified

ESD Clamping ^{*1}



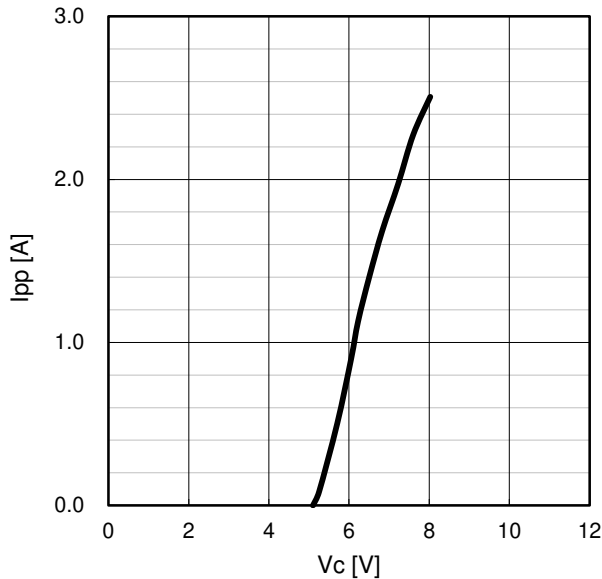
Note) *1: Input Pulse :
 IEC61000-4-2 / Contact / + 8 kV

ESD Clamping ^{*2}



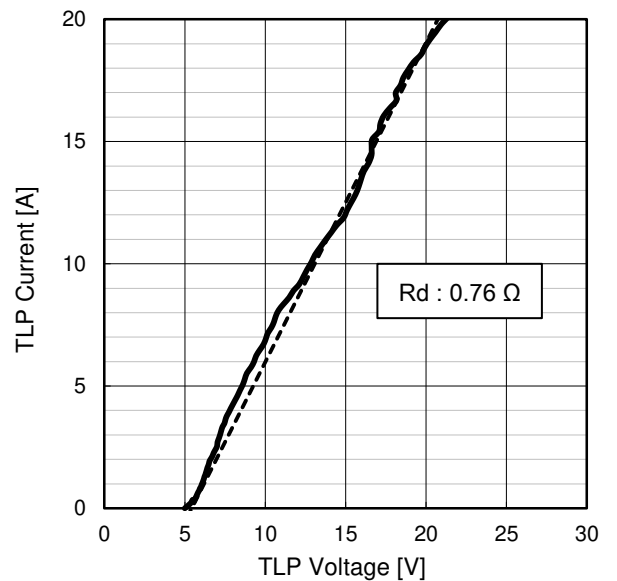
Note) *2: Input Pulse :
 IEC61000-4-2 / Contact / - 8 kV

Clamping Voltage ^{*3}



Note) *3: Input : 8/20 μs pulse waveform

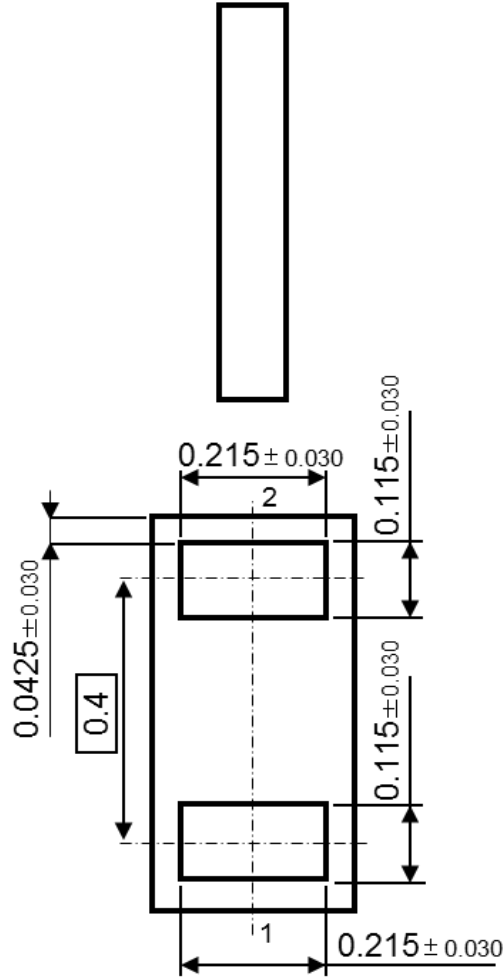
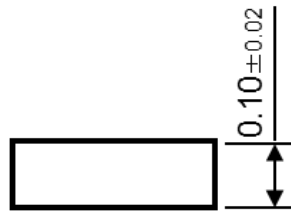
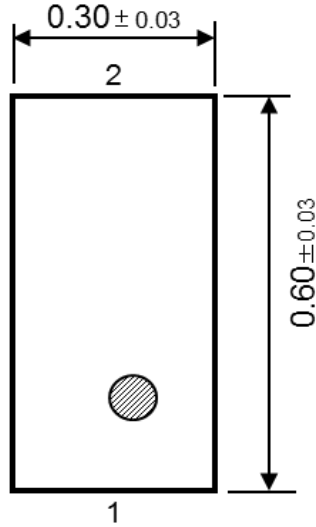
TLP Characteristic ^{*4}



Note) *4: Input Pulse : $T_p = 100\text{ns}$, $t_r = 0.2\text{ns}$,
 average window $t_1 = 54.4\text{ns}$, $t_2 = 94.4\text{ns}$
 Extraction of R_d using least squares fit of TLP
 characteristic between $I_{pp} = 10 \text{ A}$ and $I_{pp} = 20 \text{ A}$.
 R_d : Dynamic resistance

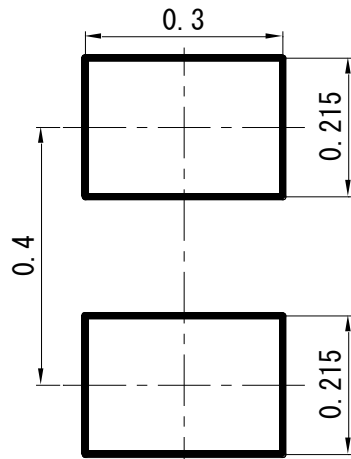
DCSP0603010-N2

Unit: mm



■ Land Pattern (Reference)

Unit: mm



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