## Features

- AECQ-101 Qualified with Wettable Flank
- Low Capacitance
- Low Clamping Voltage
- Ultra Low Leakage Current
- Moisture Sensitivity Level 1
- Halogen Free. “Green” Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

# Snap Back ESD Protection Device

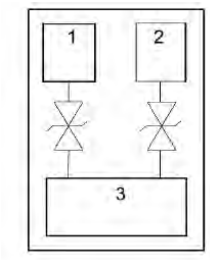
## Maximum Ratings

| | | |
|---|---|---|
| IEC61000-4-2 (ESD) | Air | ±30KV |
| | Contact | ±30KV |
| Peak Pulse Current (8/20μs) | $I_{PP}$ | 5A |
| Peak Pulse Power (8/20μs)(Note2) | $P_{PK}$ | 170W |
| Operating Junction Temperature Range | $T_J$ | -55°C to +125°C |
| Storage Temperature Range | $T_{STG}$ | -55°C to +150°C |

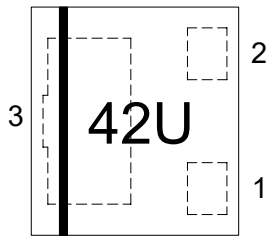
Note :

1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5.

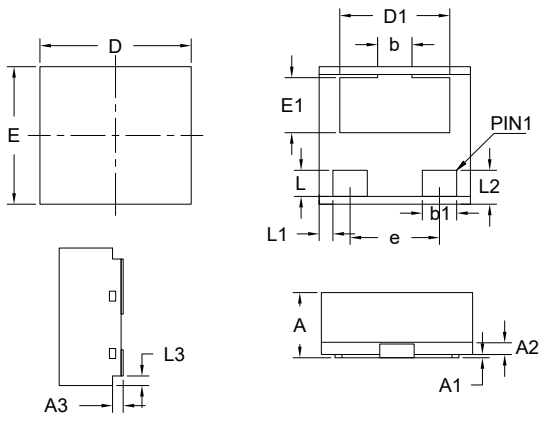
### Internal Structure




### Marking Code

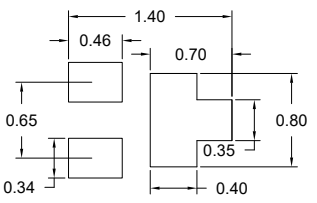



## DFN1110-3(SWF)

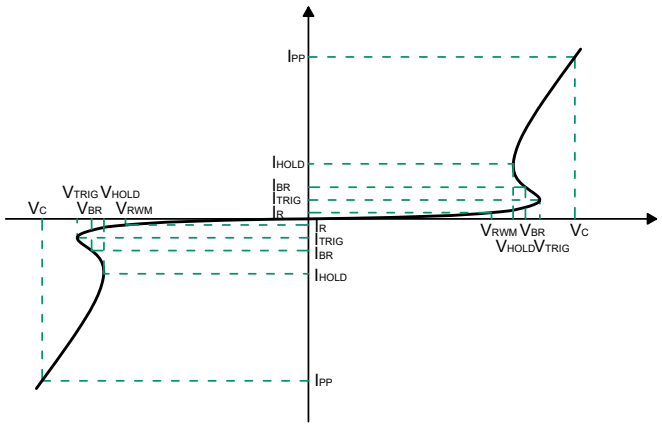



| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| | INCH | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | 0.016 | 0.020 | 0.400 | 0.500 | |
| A1 | 0.000 | 0.002 | 0.000 | 0.050 | |
| A2 | 0.004 | | 0.100 | | MIN |
| A3 | 0.005 | | 0.127 | | MIN |
| D | 0.041 | 0.045 | 1.050 | 1.150 | |
| E | 0.037 | 0.041 | 0.950 | 1.050 | |
| D1 | 0.030 | 0.033 | 0.750 | 0.850 | |
| E1 | 0.014 | 0.018 | 0.350 | 0.450 | |
| b | 0.008 | 0.012 | 0.200 | 0.300 | |
| b1 | 0.008 | 0.012 | 0.200 | 0.300 | |
| e | 0.024 | 0.028 | 0.600 | 0.700 | |
| L | 0.006 | 0.009 | 0.140 | 0.240 | |
| L1 | 0.004 | | 0.100 | | TYP |
| L2 | 0.008 | 0.012 | 0.210 | 0.310 | |
| L3 | 0.000 | 0.003 | 0.000 | 0.070 | |

SUGGESTED SOLDER PAD LAYOUT (mm)



| Symbol | Parameter |
|---|---|
| $V_{RWM}$ | Peak Reverse Working Voltage |
| $I_R$ | Reverse Leakage Current @ VRWM |
| $V_{BR}$ | Breakdown Voltage @ IT |
| $I_{PP}$ | Maximum Reverse Peak Pulse Current |
| $V_C$ | Clamping Voltage @ IPP |
| $V_{TRIG}$ | Reverse Trigger Voltage |
| $I_{TRIG}$ | Reverse Trigger Current |
| $V_{HOLD}$ | Reverse Holding Voltage |
| $I_{HOLD}$ | Reverse Holding Current |
| $C_J$ | Junction Capacitance |




## Electrical Characteristics @ 25°C (Unless Otherwise Specified)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| Reverse Working Voltage | $V_{RWM}$ | | | | 24 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_T$=1mA | 26.5 | | | V |
| Reverse Leakage Current | $I_R$ | $V_{RWM}$=24V | | | 0.2 | μA |
| Clamping Voltage[Note1] | $V_C$ | $I_{PP}$=1A, $t_P$=8/20μs | | | 34 | V |
| Clamping Voltage[Note1] | $V_C$ | $I_{PP}$=5A, $t_P$=8/20μs | | | 34 | V |
| Junction Capacitance | $C_J$ | $V_R$=0V, f=1MHz | | 5 | | pF |
| Dynamic Resistance [Note2] | $R_{DYN}$ | TLP, $t_P$=100ns | | 0.57 | | Ω |

Note :
1.Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.
2.TLP parameter: $Z_0$=50Ω, tp=100ns, tr=2ns, averaging window from 60ns to 80ns. $R_{DYN}$ is calculated from 4A to 16A.

## Curve Characteristics

Fig. 1 - 8 X 20μs Pulse Waveform

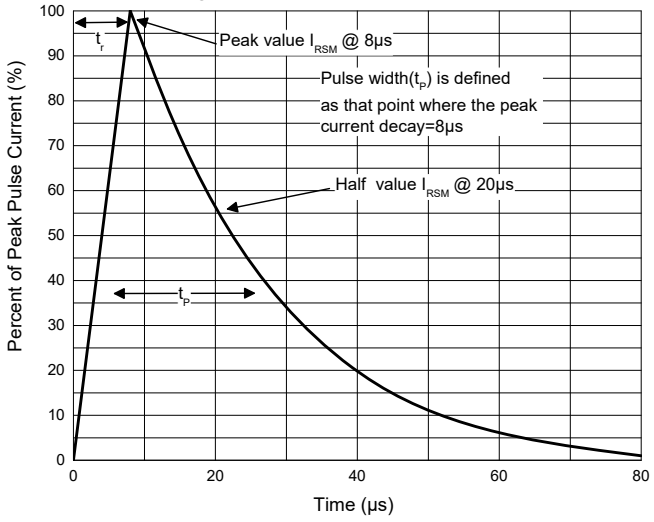



Fig. 2 - Non-Repetitive Peak Pulse Power

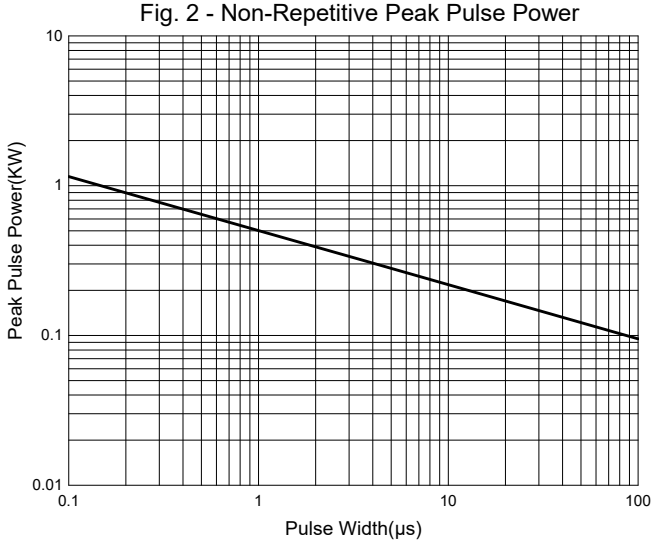



Fig. 3 - Capacitance Characteristics

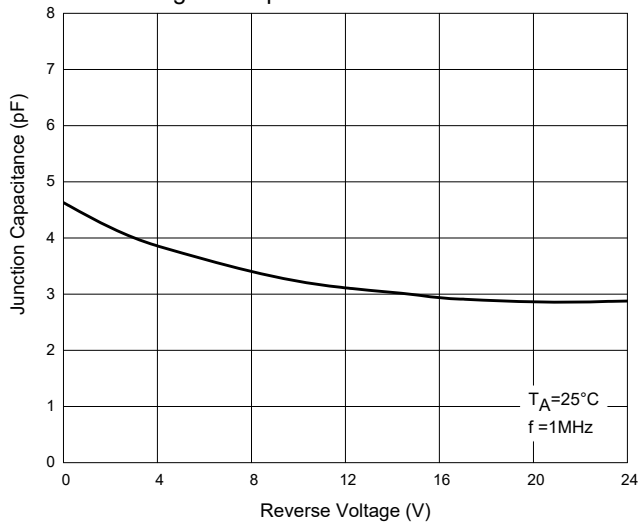



Fig. 4 - Clamping Voltage Characteristics

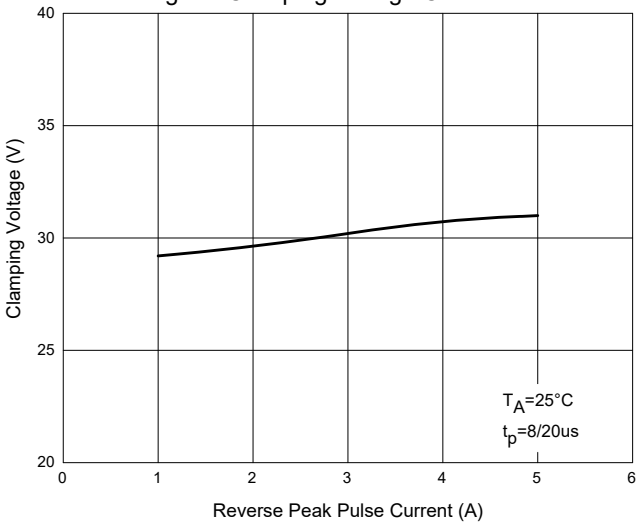



Fig. 5 - TLP Curve

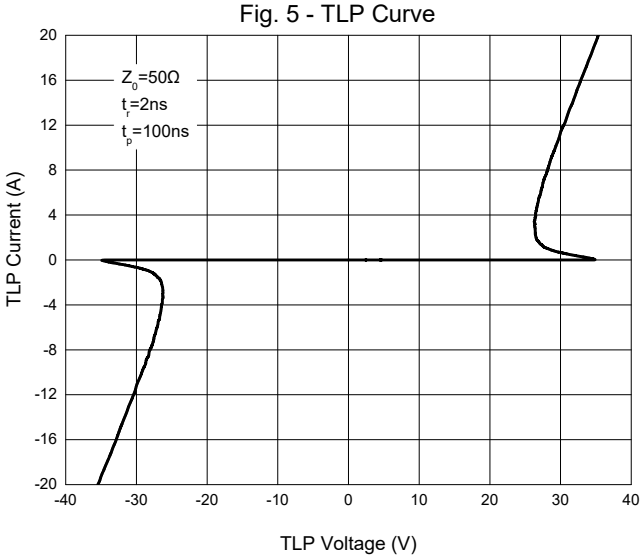
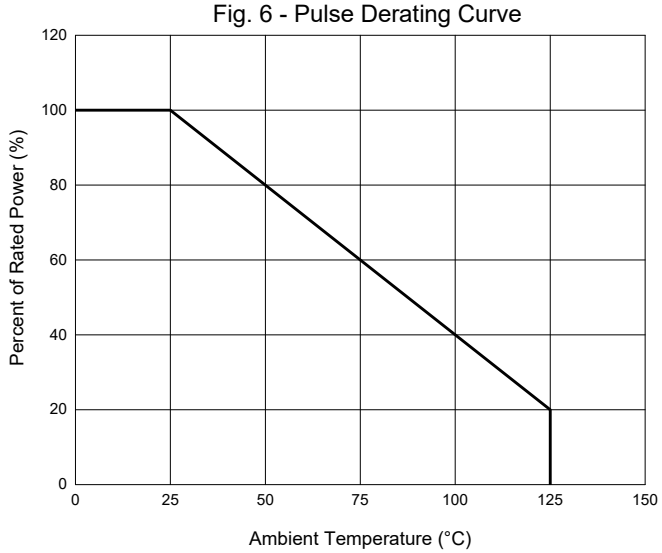



Fig. 6 - Pulse Derating Curve



## Ordering Information

| Device | Packing |
|---|---|
| Part Number-TP | Tape&Reel: 10Kpcs/Reel |