

Features

- 2-pin lead-less package
- Junction capacitance (Typical value: 60pF)
- Peak Pulse Current (8/20 μ s):35A
- IEC61000-4-2 (ESD) $\pm$ 30kV (air), $\pm$ 30kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages:5V
- RoHS Compliant

Appearance & Symbol



Bi-directional

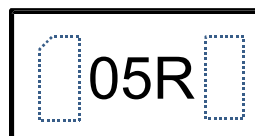
Mechanical Characteristics

- Package: DFN1006-2L
- Lead Finish:Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Tape Reel :10000pcs

Applications

- Cellular Handsets and Accessories
- Audio Players, Peripherals
- Personal Digital Assistants, Portable Instrumentation
- Keypads, Side Keys, USB, LCD Display

Marking & Ordering information



05R=Marking Code

Absolute Maximum Ratings (T=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20 μ s waveform)	P _{ppp}	420	W
Peak Pulse Current (8/20 μ s)	I _{pp}	35	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	$\pm$ 30	kV
ESD per IEC 61000-4-2 (Contact)		$\pm$ 30	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

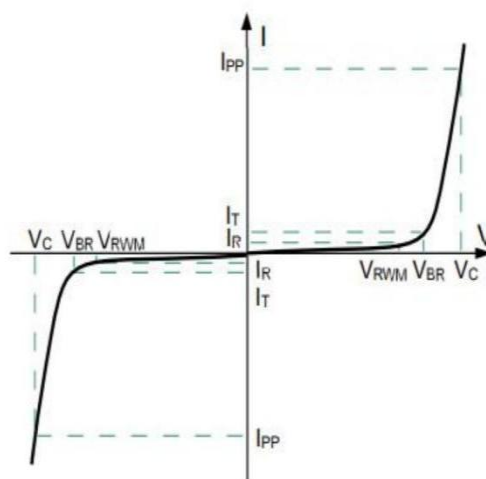
FSDS0501D1

Electrical characteristics (TA=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	
Breakdown Voltage	V_{BR}	6		9	V	$I_T = 1\text{mA}$
Reverse Leakage Current	I_R			0.2	μA	$V_{RWM} = 5.0\text{V}$
Clamping Voltage	V_C			7	V	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)
Clamping Voltage	V_C			12	V	$I_{PP} = 35\text{A}$ (8 x 20 μs pulse)
Junction Capacitance	C_J		60		pF	$V_R = 0\text{V}$, $f = 1\text{MHz}$

Electronics Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power



Typical Performance Characteristics (TA=25°C unless otherwise Specified)

FIG1: Power rating derating curve

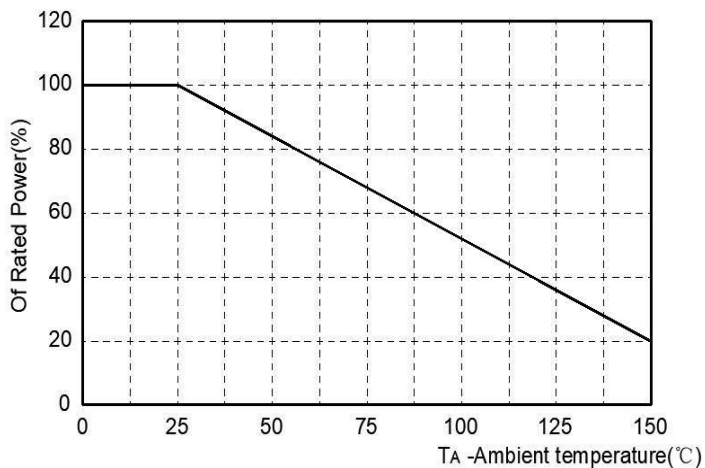
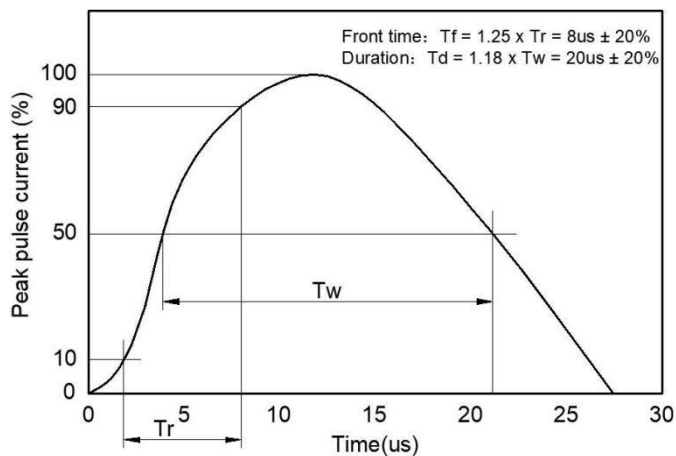


FIG2: pulse Waveform



Typical Performance Characteristics (TA=25°C unless otherwise Specified)

FIG3: Capacitance between terminals characteristics

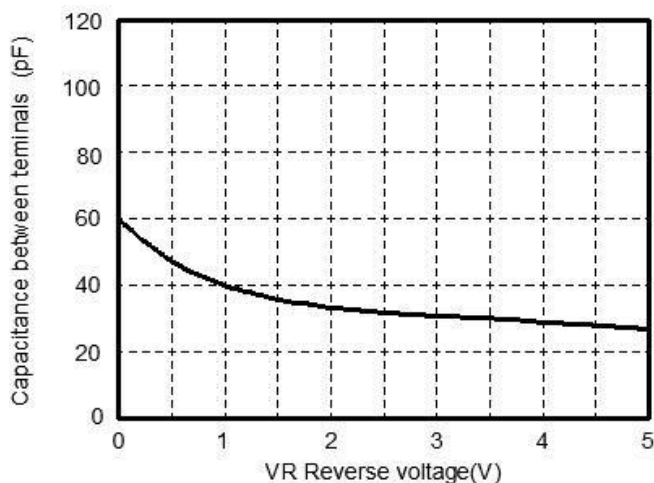
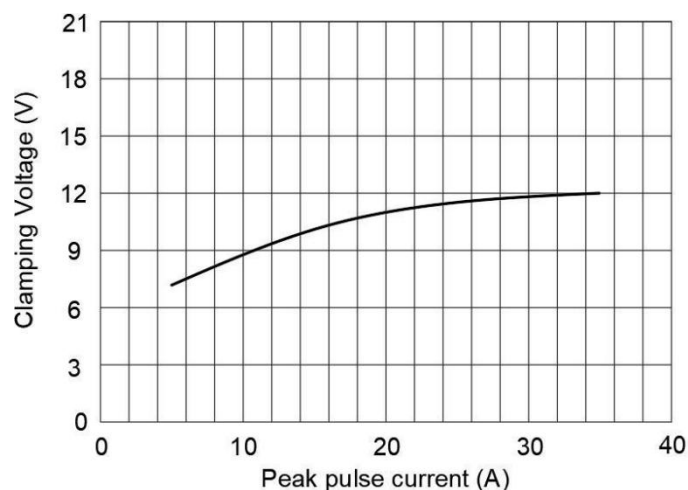


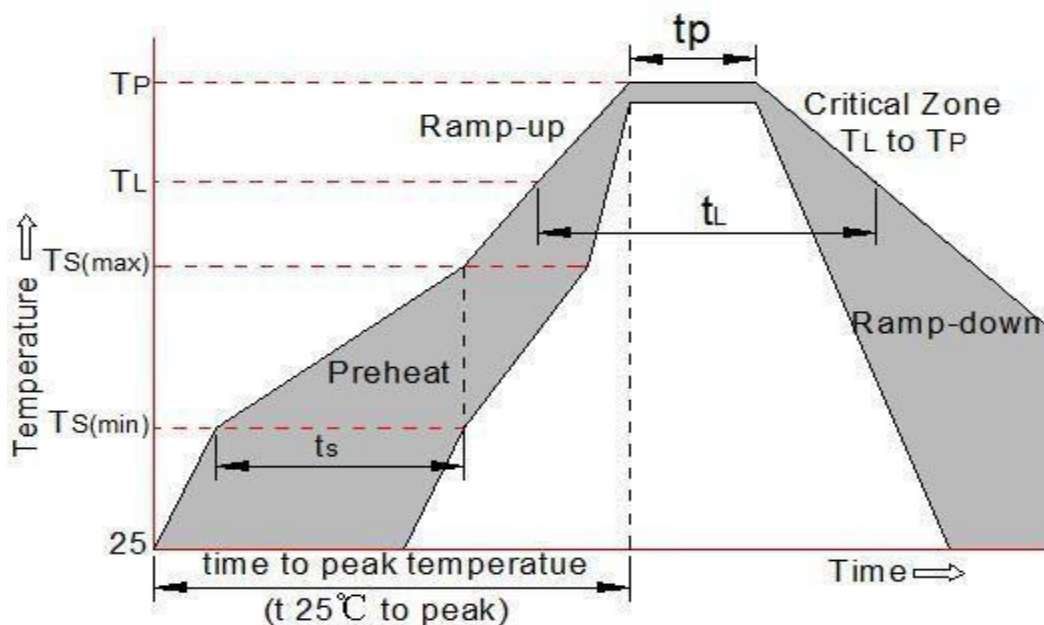
FIG4: Clamping Voltage vs. Peak Pulse Current



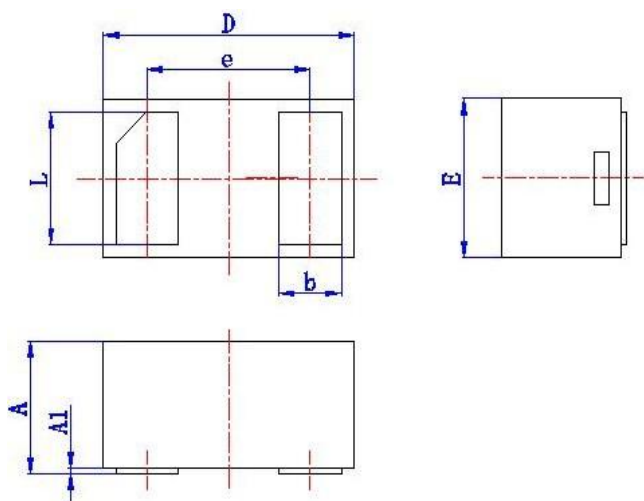
Soldering parameters

Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_p)		8 min. Max
Do not exceed		+260°C

Soldering parameters

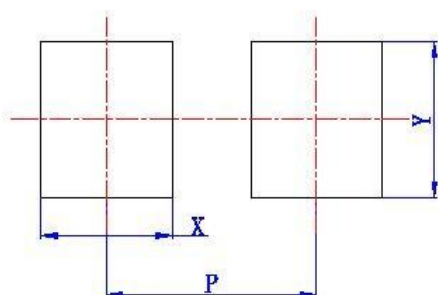


Package mechanical data



Symbol	Dimension in Millimeters	
	min	max
A	0.4	0.52
A1	0	0.05
D	0.9	1.1
E	0.55	0.65
e	(0.65)	
b	0.18	0.32
L	0.34	0.55

Suggested Land Pattern



Symbol	Dimension in Millimeters
	typ
X	(0.5)
Y	(0.7)
P	(0.8)