

FEATURES

- | 180 Watts Peak Pulse Power per Line
($t_p=8/20\mu s$)
- | Protects One Bidirectional I/O Line
- | Low Clamping Voltage
- | Meet AEC-Q101 Requirements

APPLICATIONS

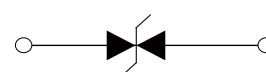
- | DC High-Side and Low-Side Proximity Switches
- | Digital Sensor Input Protection
- | ADSL interfaces
- | 24V DC Supply Protection
- | Automotive Applications
- | RS-232, RS-422, V.90 interfaces
- | FeliCa / RFID
- | HBT Power Amp Protection



DFN1006



Marking



Schematic Symbol

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

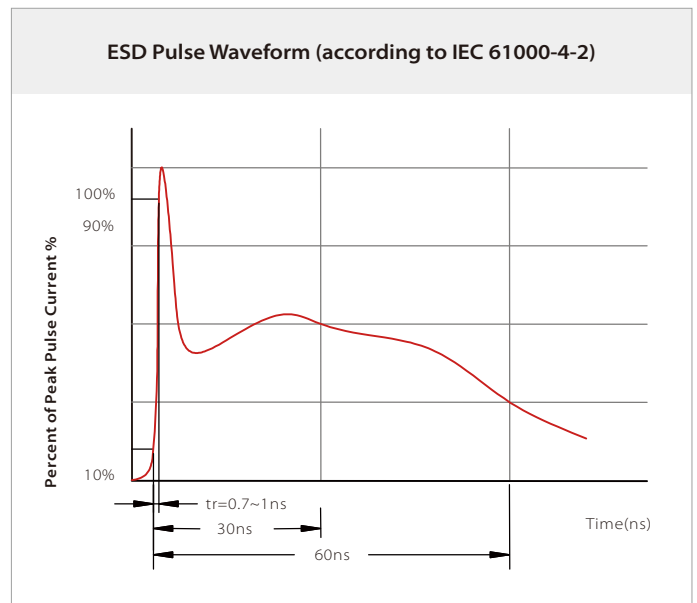
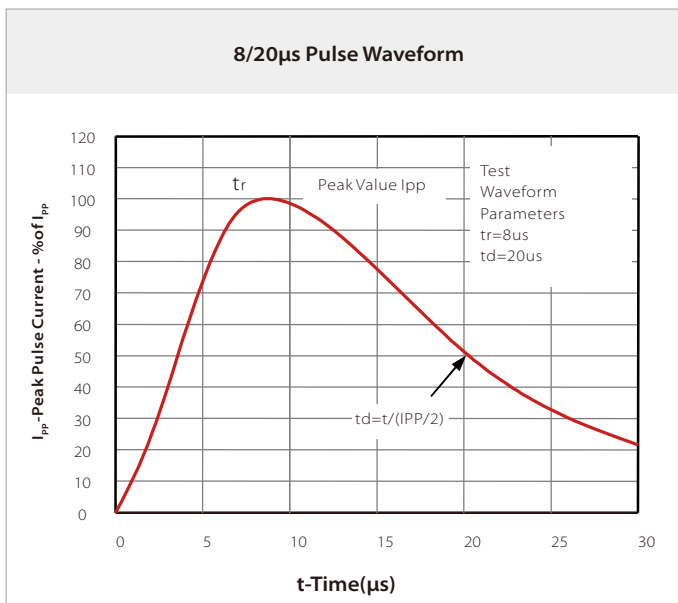
THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
P_{PP}	Peak Pulse Power ($t_p=8/20\mu s$ waveform)	180	Watts
T_J	Operating Temperature Range	-40 to +125	$^{\circ}C$
T_{STG}	Storage Temperature Range	-55 to +150	$^{\circ}C$
T_L	Lead Soldering Temperature	260 (10 sec.)	$^{\circ}C$

ELECTRICAL CHARACTERISTICS

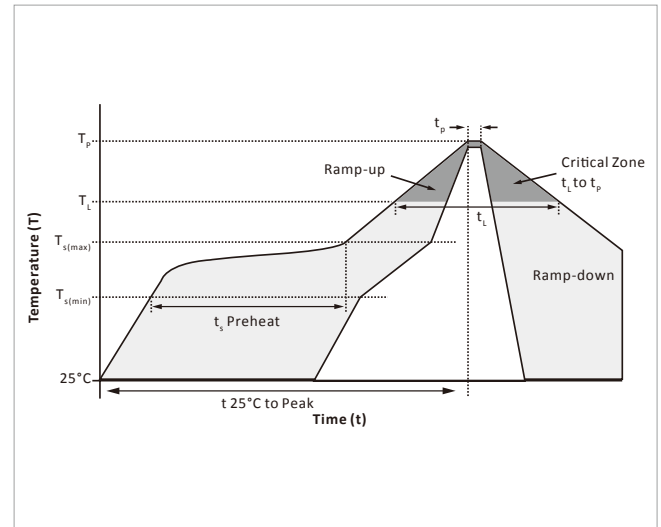
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Stand-off Voltage				24	V
V_{BR}	Reverse Breakdown Voltage	$I_T=1\text{mA}$	26.7			V
I_R	Reverse Leakage Current	$V_R=24\text{V}$			0.1	μA
V_C	Clamping Voltage ($T_p=8/20\mu\text{s}$)	$I_{pp}=1\text{A}$			42	V
V_C	Clamping Voltage ($T_p=8/20\mu\text{s}$)	$I_{pp}=2\text{A}$			49	V
V_C	Clamping Voltage ($T_p=8/20\mu\text{s}$)	$I_{pp}=3.5\text{A}$			52	V
I_{pp}	Peak Pulse Current ($T_p=8/20\mu\text{s}$)				3.5	A
C_J	Off State Junction Capacitance	$0\text{Vdc}, f=1\text{MHz}$		11		pF

CHARACTERISTIC CURVES

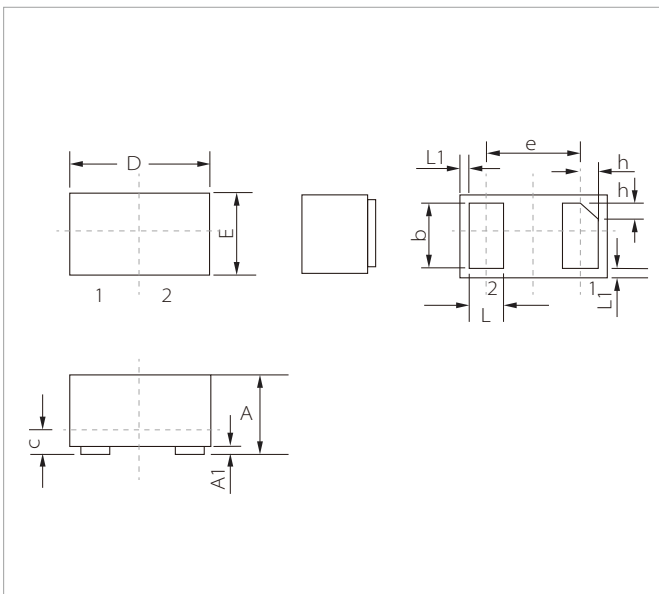


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

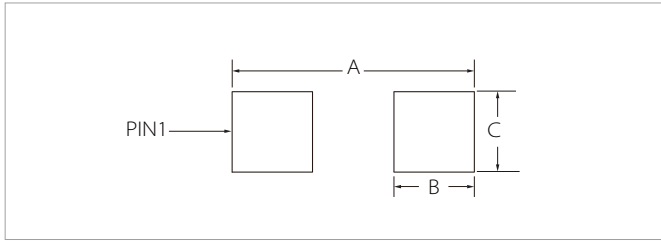


DFN1006 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.35	0.50	0.014	0.020
A1	0	0.05	0	0.002
b	0.40	0.55	0.016	0.022
c	0.12	0.18	0.005	0.007
D	0.95	1.05	0.037	0.041
e	0.65BSC		0.026BSC	
E	0.55	0.70	0.022	0.027
L	0.20	0.35	0.008	0.014
L1	0.05REF		0.002REF	
h	0.07	0.17	0.003	0.007

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	1.20	0.047
B	0.47	0.019
C	0.60	0.024

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
TPSE10F15B24A	DFN1006	10000PCS	7"

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