

FEATURES

- | Fast Switching Device

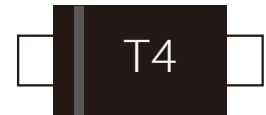
- | Low Reverse Leakage Current

- | Surface Device Type Mounting

- | Green EMC



DFN1006



Marking



Schematic Symbol

MECHANICAL DATA

- | Encapsulation: DFN1006 Small Outline Plastic Package

- | Polarity: Color band denotes cathode end

- | Mounting Position: Any

APPROVALS

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

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RSM}	100	V
Peak Repetitive Reverse Voltage	V_{RRM}	75	V
Working Peak Reverse Voltage	V_{RWM}	75	V
Reverse Voltage	V_R	75	V
Power Dissipation	P_D	200	mW
Average Rectified Current	I_o	100	mA
Repetitive Peak Forward Current	I_{FRM}	300	mA
Peak Forward Surge Current @ $t_p=1\mu\text{s}; T_a=25^{\circ}\text{C}$	I_{FSM}	2.0	A
Operating Junction Temperature Range	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to 150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Voltage	V_R	$I_R=100\mu\text{A}$	75			V
Reverse Leakage Current	I_R	$V_R=80\text{V}$			100	nA
		$V_R=20\text{V}$			25	nA
Forward Voltage	V_F	$I_F=5\text{mA}$	0.62		0.72	V
		$I_F=10\text{mA}$			0.855	V
		$I_F=100\text{mA}$			1.00	V
		$I_F=150\text{mA}$			1.25	V
Capacitance	C_J	$V_R=0.5\text{V}$, $f=1\text{MHz}$			3	pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=10\text{mA}$, $R_L=100\Omega$, $I_{RR}=1\text{mA}$			4	ns

CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

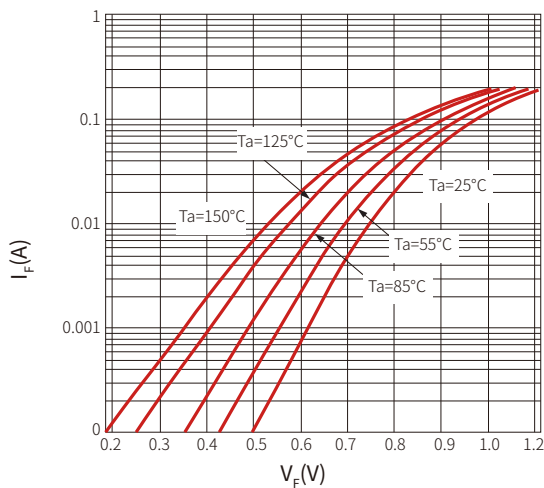


Fig.2 Reverse Characteristics

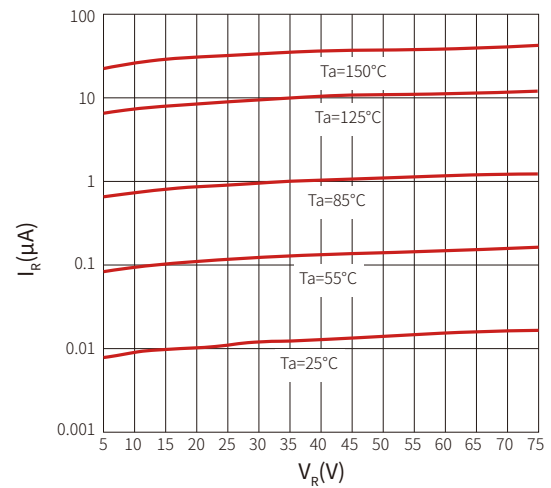
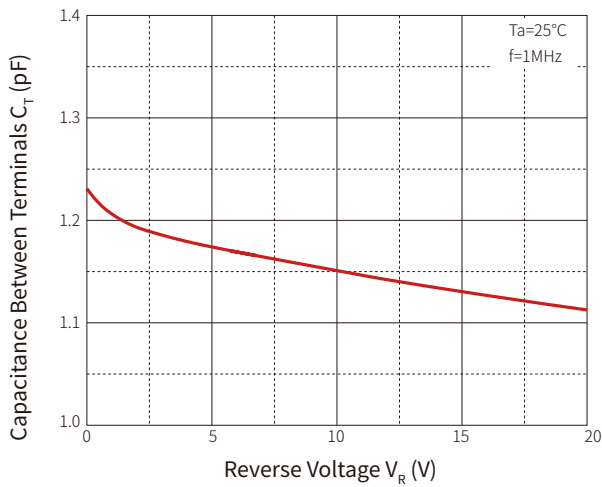
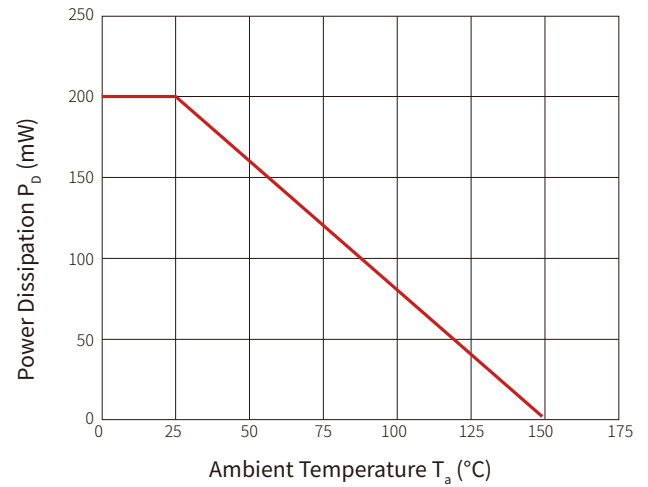
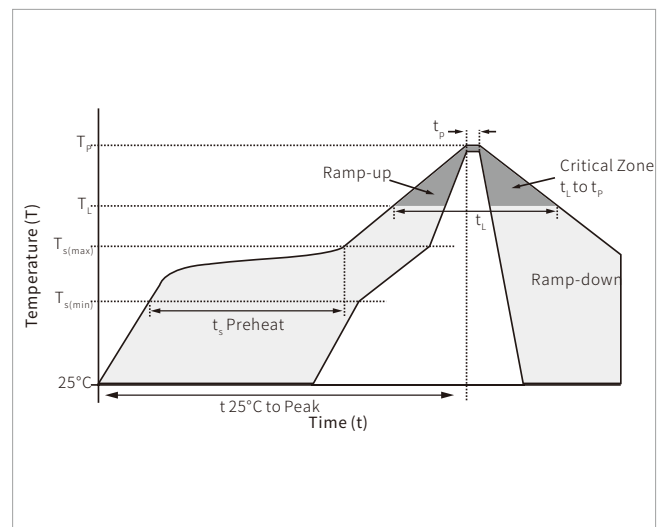


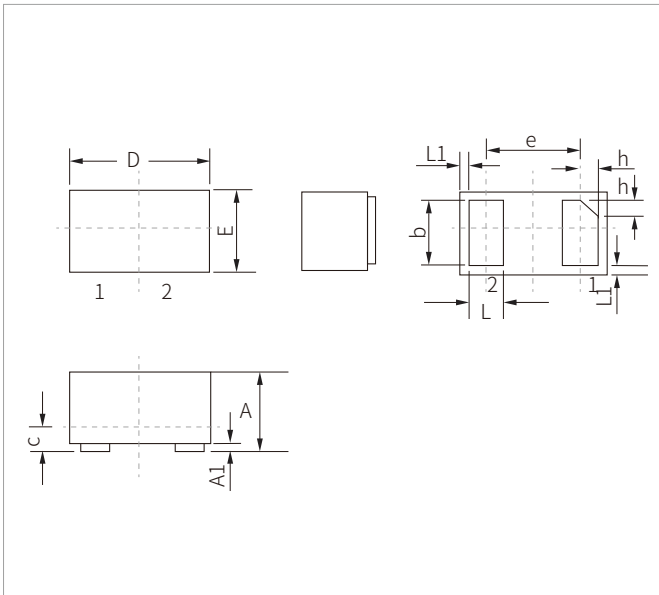
Fig.3 Capacitance Characteristics

Fig.4 Power Derating Curve


SOLDERING PARAMETERS

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

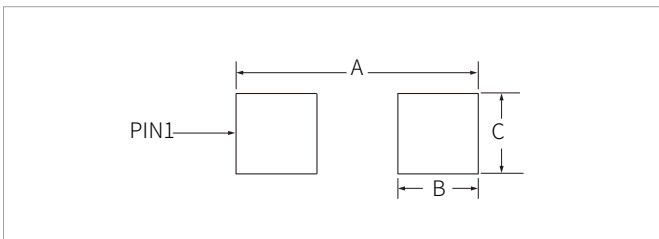


DFN1006 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.40	0.60	0.016	0.024
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	0.90	1.10	0.035	0.043
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
1N4148D1	DFN1006	10000PCS	7"

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