

FEATURES

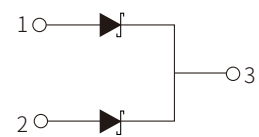
- | Very Low Reverse Leakage Current
- | Low Forward Voltage
- | Fast Reverse Recovery
- | Low Capacitance



DFN1006-3L



Marking



Schematic Symbol

MECHANICAL DATA

- | Portable Device
- | Mobile Applications
- | LCD and Keypad Backlighting
- | Clamping Protection
- | Reverse Voltage and Current Protection
- | Freewheeling Diode

APPROVALS

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

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	30	V
Working Peak Reverse Voltage	V _{RWM}	30	V
DC Blocking Voltage	V _R	30	V
Power Dissipation	P _D	350	mW
Average Rectified Output Current	I _{F(AV)}	0.1	A
Repetitive Peak Forward Surge Current @t=8.3ms	I _{FSM}	2	A
Thermal resistance Junction to ambient	R _{θJA}	350	°C/W
Operating Temperature Range	T _J	125	°C
Storage Temperature Range	T _{STG}	-40 ~ +150	°C

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F=1\text{mA}$		290	320	mV
		$I_F=10\text{mA}$		365	400	mV
		$I_F=30\text{mA}$		420	500	mV
		$I_F=100\text{mA}$		540	600	mV
Reverse Leakage Current	I_R	$V_R=25\text{V}$			1.0	μA
Reverse Voltage	V_{BR}	$I_R=0.1\text{mA}$	30			V
Total Capacitance	C_{tot}	$V_R = 5.0V_{DC}, f=1\text{MHz}$		3.3		pF
Reverse Recovery Time	T_{RR}	$I_F=10\text{mA}, I_R=10\text{mA}, I_{RR}=1\text{mA}$		2		nS

CHARACTERISTIC CURVES

Fig.1 Typical Forward Characteristics

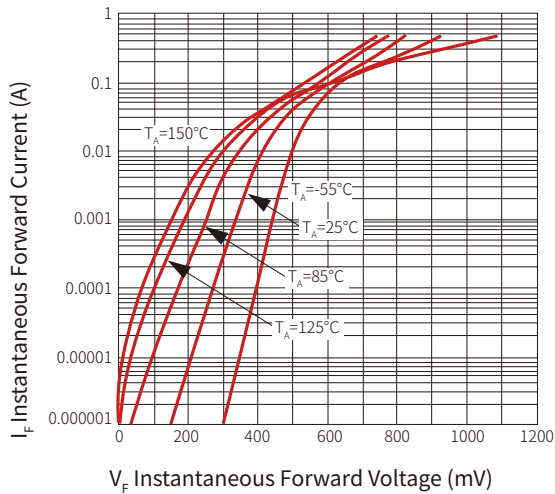


Fig.2 Typical Reverse characteristics

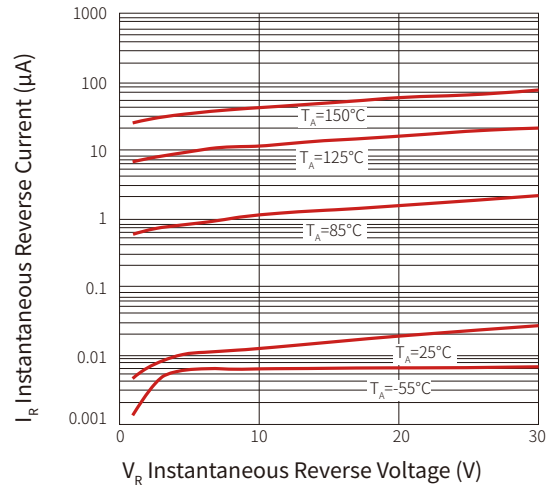
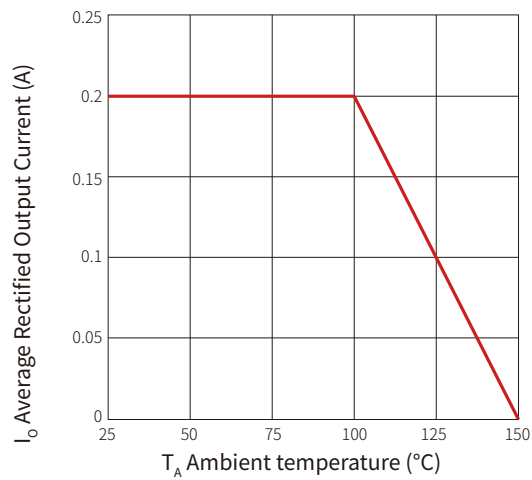
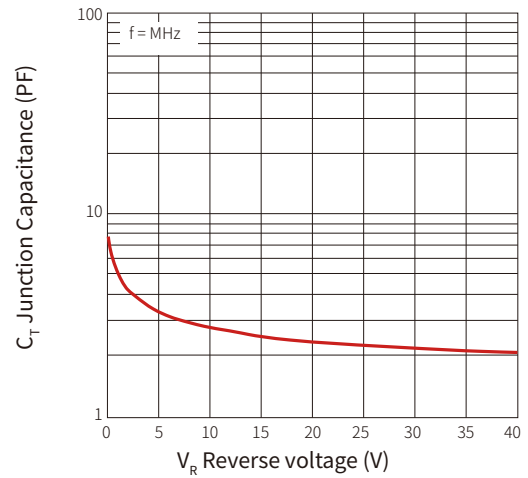
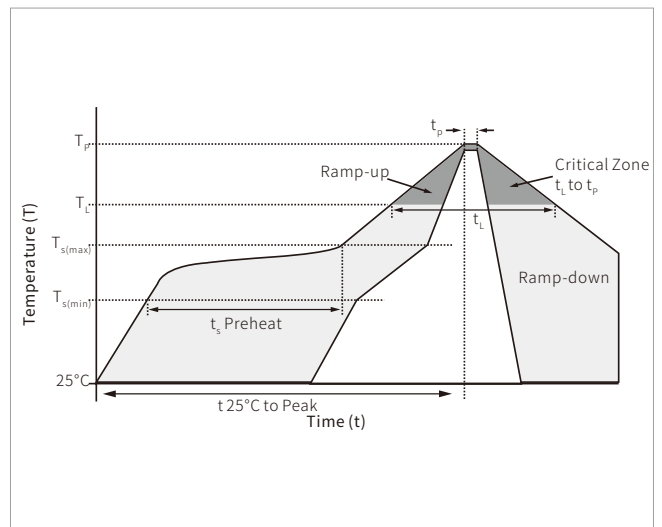


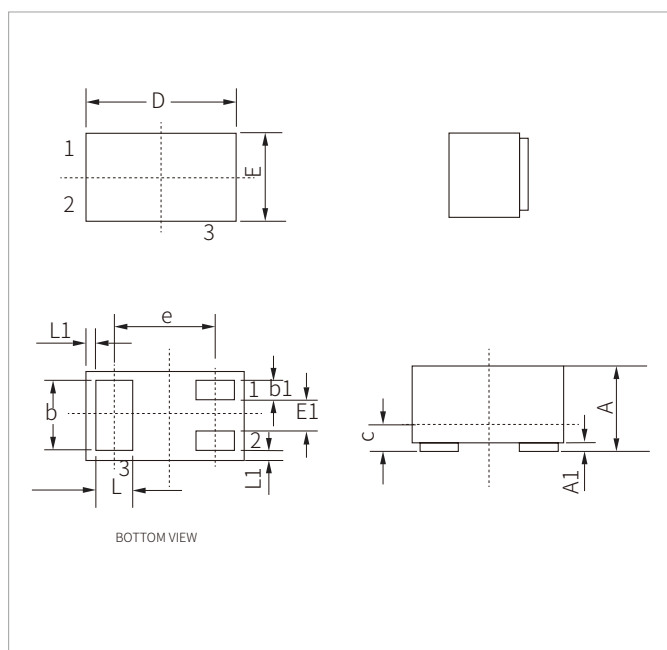
Fig.3 Forward Current Derating Curve

Fig.4 Typical Junction Capacitance


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

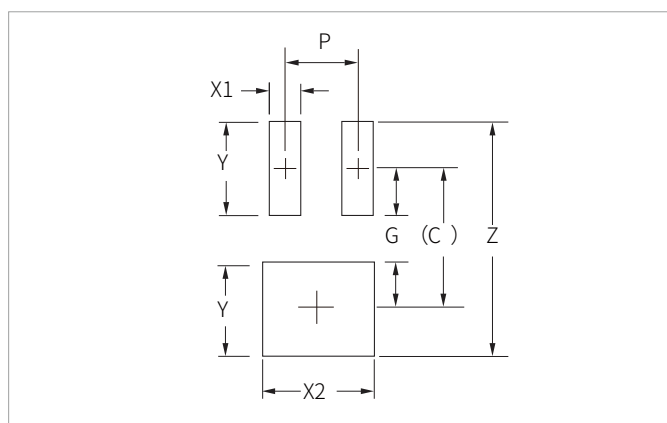


DFN1006-3L PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.35	0.60	0.014	0.024
A1	0	0.05	0	0.002
b	0.45	0.55	0.018	0.022
b1	0.10	0.20	0.004	0.008
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
E1	0.20	0.30	0.008	0.014
L	0.20	0.30	0.008	0.012
L1	0.05REF		0.002REF	

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
C	(0.85)	(0.033)
P	0.40	0.016
G	0.30	0.012
X1	0.20	0.008
X2	0.60	0.024
Y	0.55	0.022
Z	1.40	0.055

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BAT54C3	DFN1006-3L	10000PCS	7"

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