

DFN0603 Plastic-Encapsulate Diode

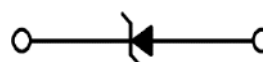
Schottky Barrier Diode

Features

- ◆ Small mold type: DFN0603
- ◆ Low IR
- ◆ High reliability

Applications

- ◆ Low voltage rectification
- ◆ High efficiency DC-to-DC conversion
- ◆ Switch Mode Power Supply (SMPS)
- ◆ Reverse polarity protection
- ◆ Low power consumption applications



DFN0603

Maximum Rating @ Ta=25°C unless otherwise specified

Symbol	Parameter	Ratings	Units
V _{RM}	Reverse voltage (DC)	30	V
I _O	Average rectified forward current	100	mA
I _{FSM}	Forward current surge peak (60Hz 1cyc)	500	mA
T _J	Operating Temperature	-55 to +125	°C
T _{STG}	Storage Temperature	-55 to +125	°C

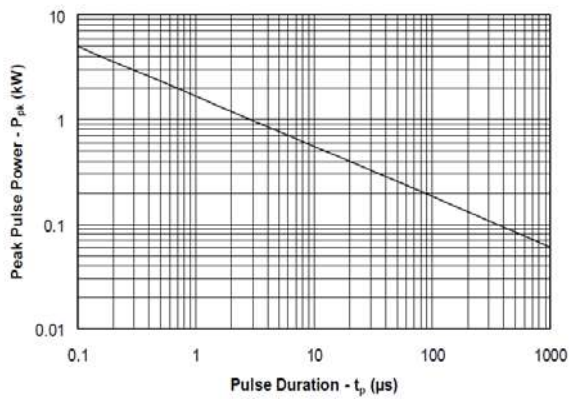
Electrical Characteristics@ Ta=25°C unless otherwise

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V _R	Reverse Working Voltage	I _R =1mA	30			V
V _F	Forward voltage	I _F =10mA		0.35	0.38	V
V _F	Forward voltage t	I _F =100mA		0.52	0.55	V
I _R	Reverse current	V _R =10V		10	20	μA

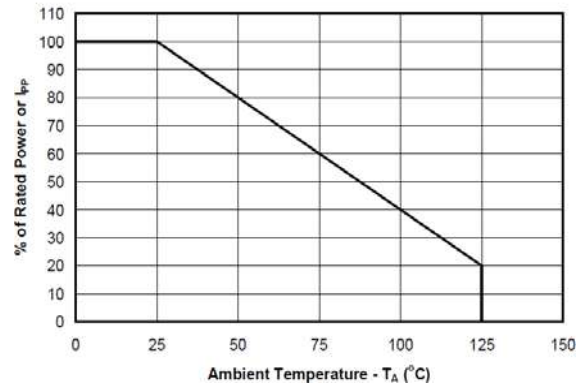
Typical Characteristics

Typical Characteristics@ $T_a=25^\circ\text{C}$ unless otherwise specified

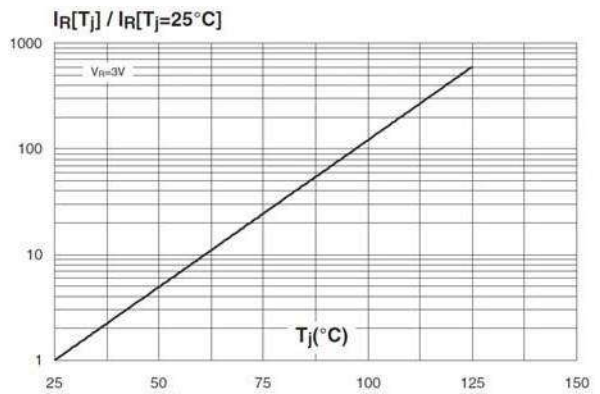
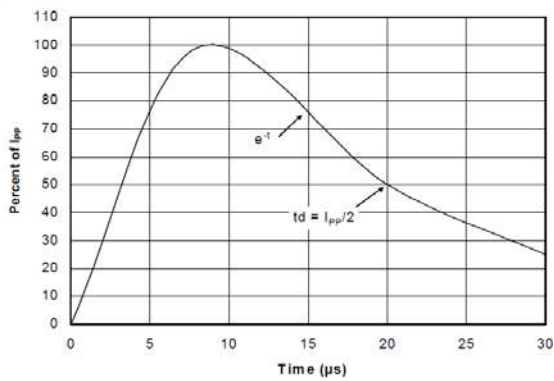
Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve



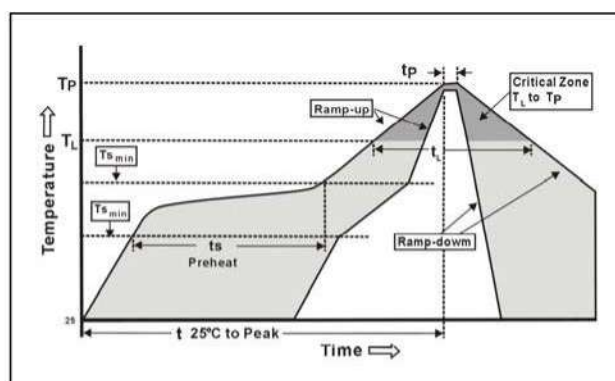
Pulse Waveform



Soldering Parameters and Package Outline

Soldering Parameters

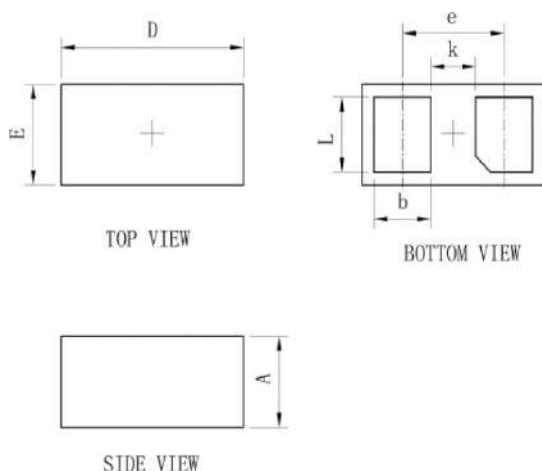
Reflow Condition		Fb – Free assembly
Pre Heat	- Temperature Min ($T_{s(\text{Min})}$)	150°C
	- Temperature Max ($T_{s(\text{Max})}$)	200°C
	- Time (Min to max) (t_p)	60 – 180 secs
Average ramp up rate (Liquidus) Temp (T_L) to peak		3°C/second Max
$T_{s(\text{Max})}$ to T_L - Ramp-up Rate		3°C/second Max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Temperature (t_l)	60 – 150 seconds
Peak Temperature (T_p)		250 ^{+0/-5} °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



Package Outline

Plastic surface mounted package

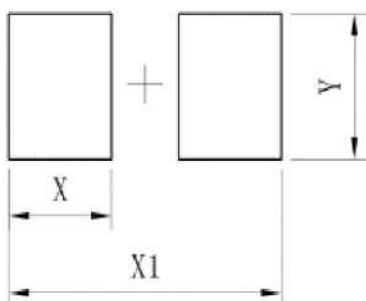
DFN0603



DFN0603-DL			
Dim	Min	Typ.	Max
D	0.58	0.61	0.64
E	0.28	0.31	0.34
e	-	0.34	-
L	0.20	0.23	0.26
b	0.16	0.19	0.22
A	0.25	0.28	0.31
k	0.12	0.15	0.18
All Dimensions in mm			

Soldering Footprint and Package Marking Information

Soldering Footprint



DFN0603-DL	
DIM	(mm)
X	0.23
X1	0.61
Y	0.30

Package And Marking Information

Device	Package	Shipping	Reel Size
RB521ZS-30	DFN0603	10000/Reel	7 inch