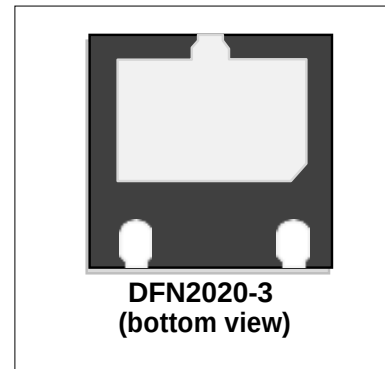


Features

- 5590 Watts Peak Power ($t_p = 8/20\mu s$)
- Fast Response time: Typically $<1ns$
- Excellent Clamping Capability
- Low Inductance
- Low profile package

IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- IEC 61000-4-5 (Lightning) 151A (8/20 μs)



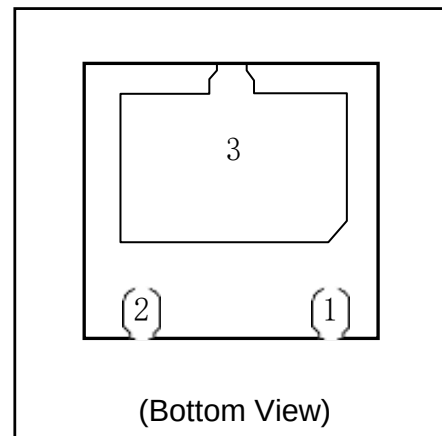
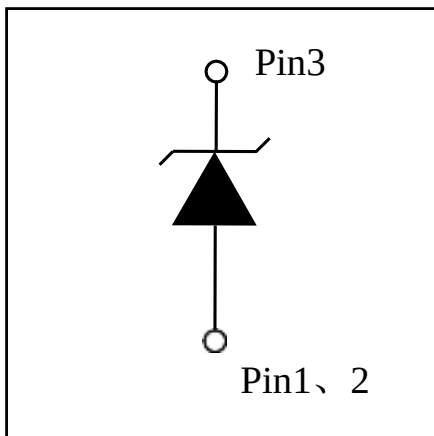
Mechanical Characteristics

- Package: DFN2020-3
- Lead Finish: NiPdAu
- Case Material: "Green" Molding Compound
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Applications

- Power Management
- Industrial Application
- Power Supply Protection

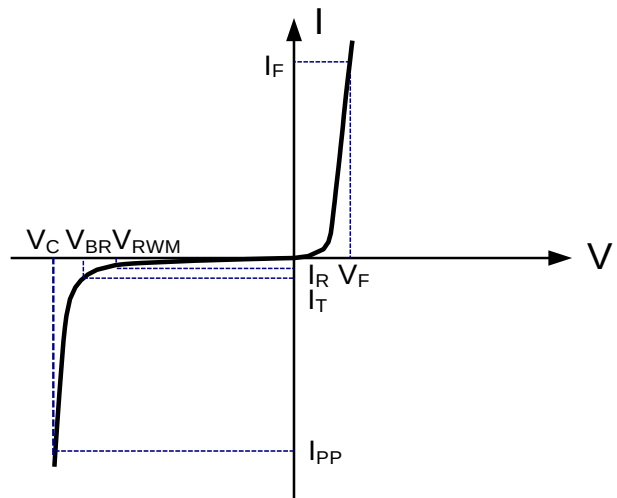
PIN Configuration



Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PK}	5550	Watts
Operating Temperature	T_{op}	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25°C)

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

PESDU1831P4-3						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				18	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	20			V
Reverse Leakage Current	I_R	$V_{RWM}=18V, T=25^\circ C$			0.3	μA
Peak Pulse Current	I_{PP}	$t_p=8/20\mu s$			150	A
Clamping Voltage ¹	V_C	$I_{PP}=35A, t_p=8/20\mu s$			25	V
Clamping Voltage ¹	V_C	$I_{PP}=151A, t_p=8/20\mu s$			39	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$		470		pF

Note: 1. Measured from pin 3 to pin 1 & pin 2.

2. TLP Setting : $t_p=100ns, t_r=0.2ns, I_{TLP}$ and V_{TLP} sample window: $t_1=70ns$ to $t_2=90ns$.

3. Dynamic resistance calculated from $I_{PP}=4A$ to $I_{PP}=16A$ using "Best Fit"

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

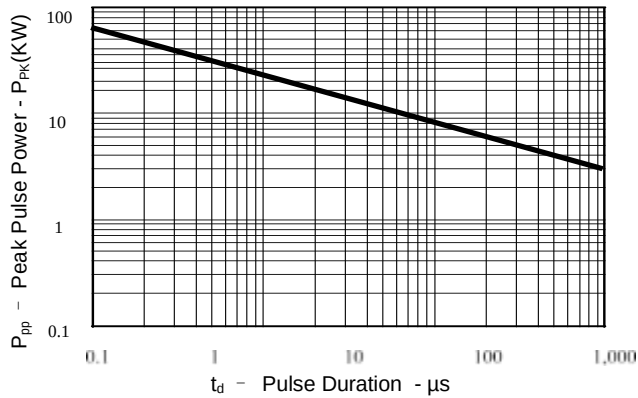


Figure 2: Power Derating Curve

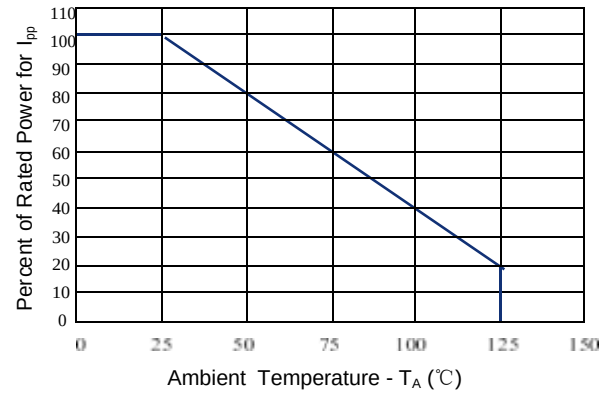


Figure 3: Clamping Voltage vs. Peak Pulse Current

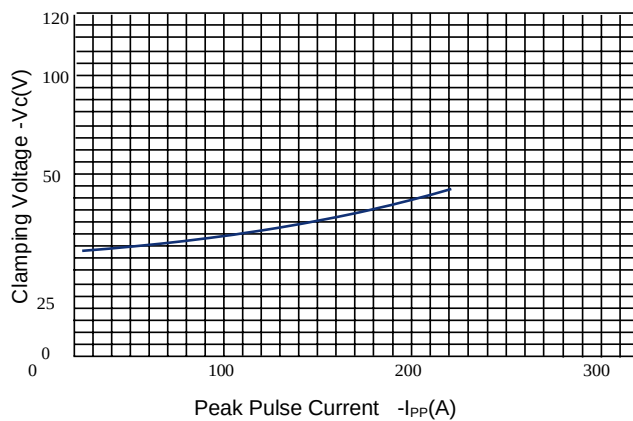
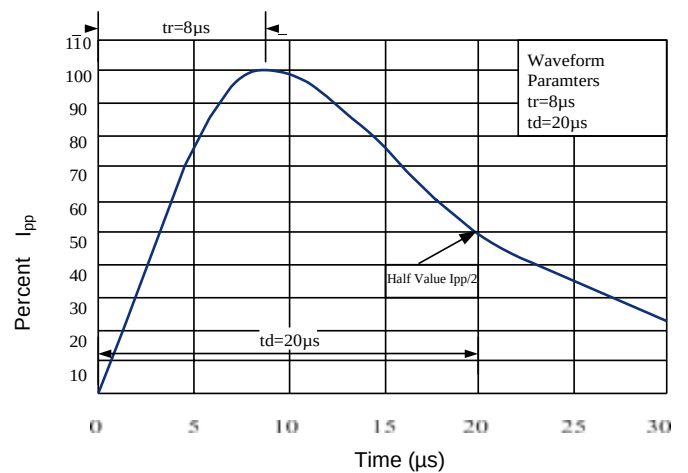
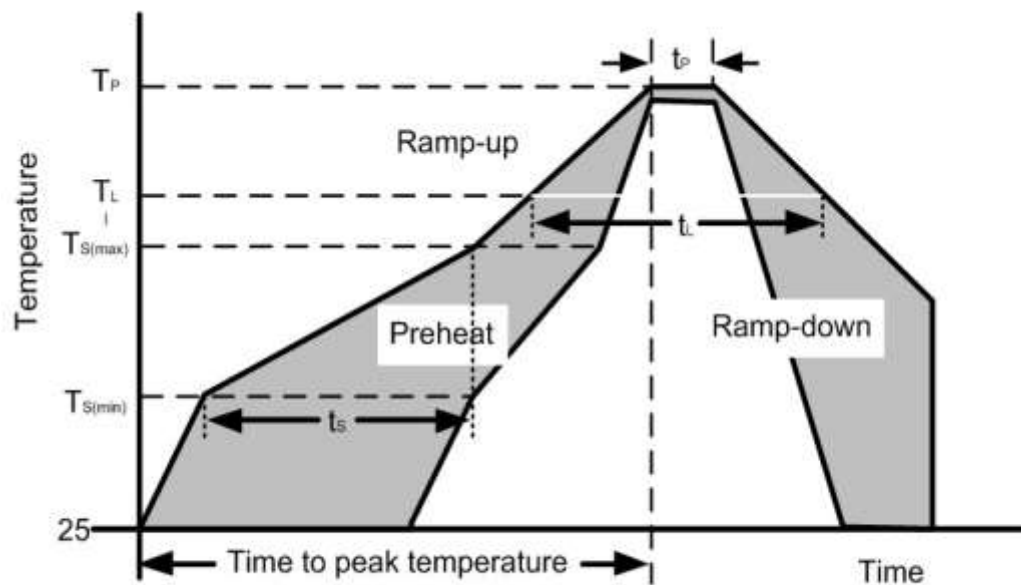


Figure 4: 8/20μs Pulse Waveform

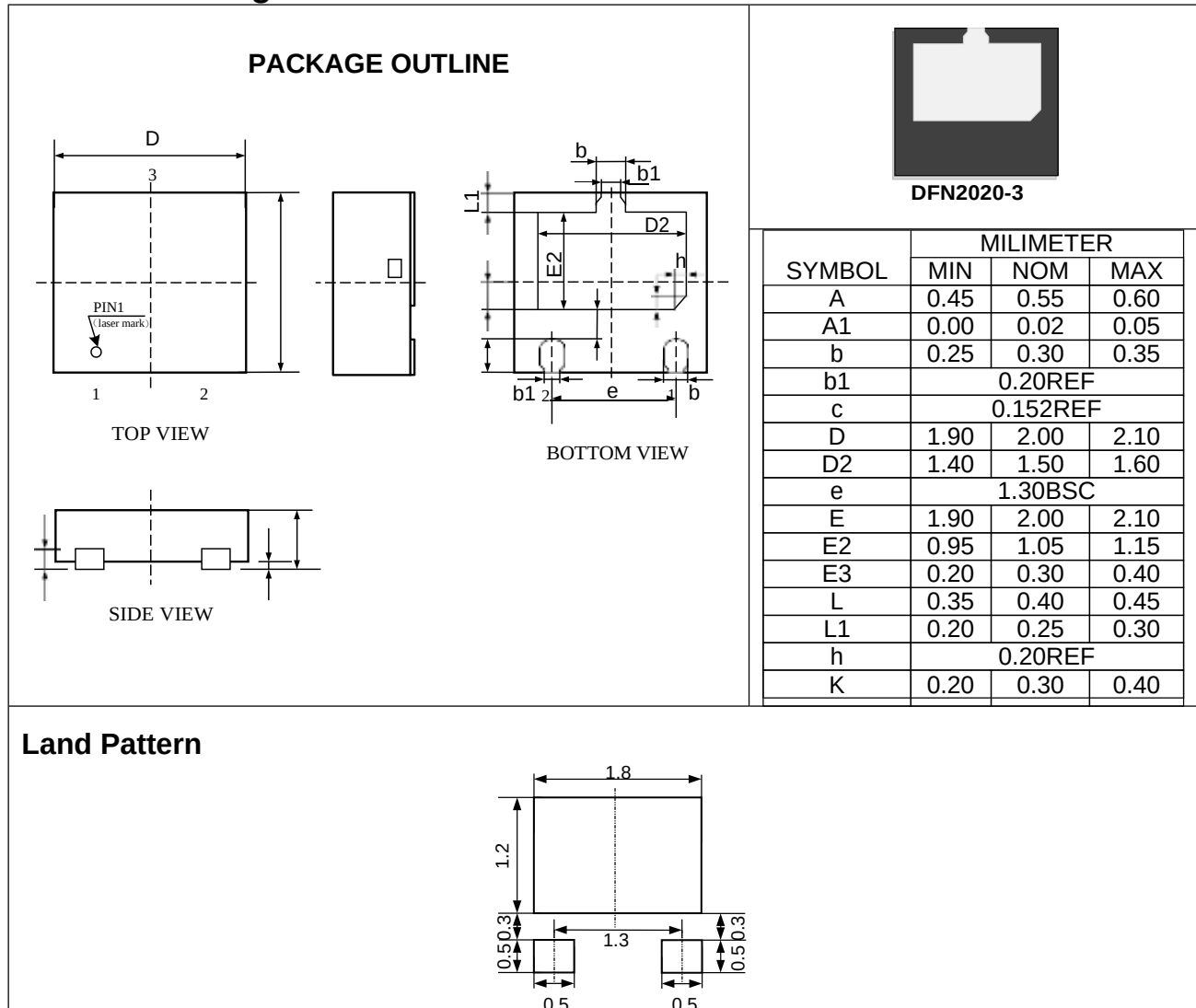


Soldering Parameters

Reflow Condition		Pb – Free assembly
Pre Heat	Temperature Min ($T_{S(min)}$)	150°C
	Temperature Max ($T_{S(max)}$)	200°C
	Time (min to max) (t_s)	60 – 190 secs
Average ramp up rate (Liquidus Temp) (T_L) to peak		5°C/second max
$T_{S(max)}$ to T_L ——Ramp-up Rate		5°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Temperature (t_L)	60 – 150 seconds
	Peak Temperature (T_P)	260+0/-5 °C
Time within actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		280°C



Outline Drawing –DFN2020-3



Marking Codes

Part Number	Marking Code
PESDU1831P4-3	18P= Device Marking Code

Package Information

Qty: 3k/Reel