

Features

- 6500W peak pulse power (8/20uS)
- Low leakage: nA level
- Operating voltage: 24V
- Ultra low clamping voltage
- One power line protects
- RoHS compliant



DFN2020-3

IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ contact $\pm 30\text{kV}$ air
- IEC 61000-4-5 (Lightning) 140A (8/20 μs)

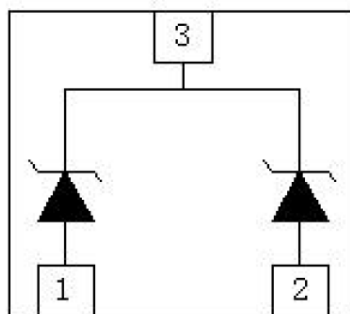
Applications

- Power Management
- Industrial Application
- Power Supply Protection

Mechanical Characteristics

- Lead Finish: NiPdAu
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below

Schematic & PIN Configuration



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Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power ($T_p = 8/20\mu s$ waveform)	P_{PP}	6500	W
Peak Pulse Current ($8/20\mu s$)	I_{PP}	140	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T_J	-55 to +125	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}C$

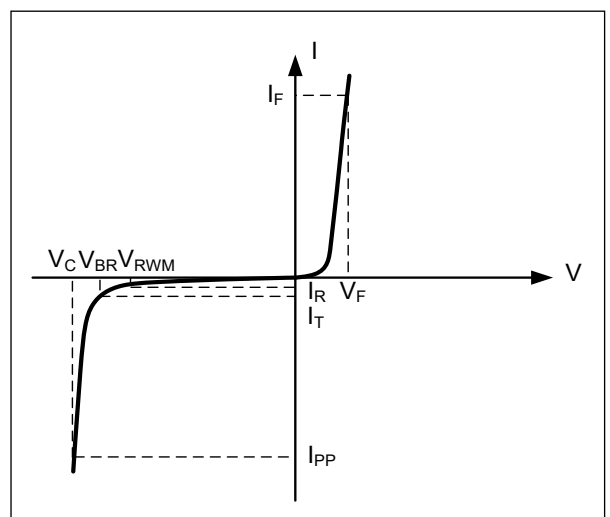
Electrical Characteristics

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				24	V
Breakdown Voltage	V_{BR}	$I_T = 1mA$	24.8			V
Reverse Leakage Current	I_R	$V_{RWM} = 24V$			1	μA
Clamping Voltage	V_C	$I_{PP} = 50A$ ($8 \times 20\mu s$ pulse)			32	V
Clamping Voltage	V_C	$I_{PP} = 140A$ ($8 \times 20\mu s$ pulse)			50	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$		410		pF

Electrical Parameters ($T_A = 25^{\circ}C$ unless otherwise noted)

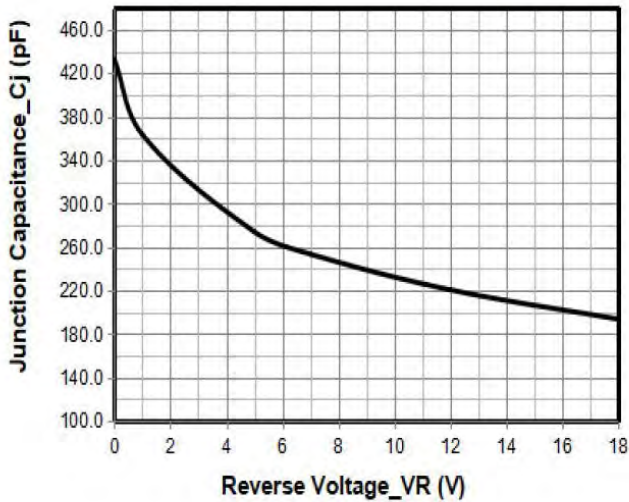
Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F

Note: $8/20\mu s$ pulse waveform.

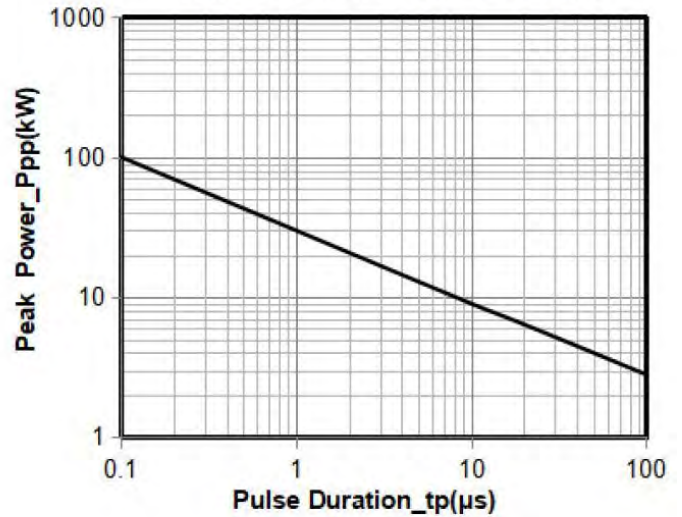


Typical Performance Characteristics

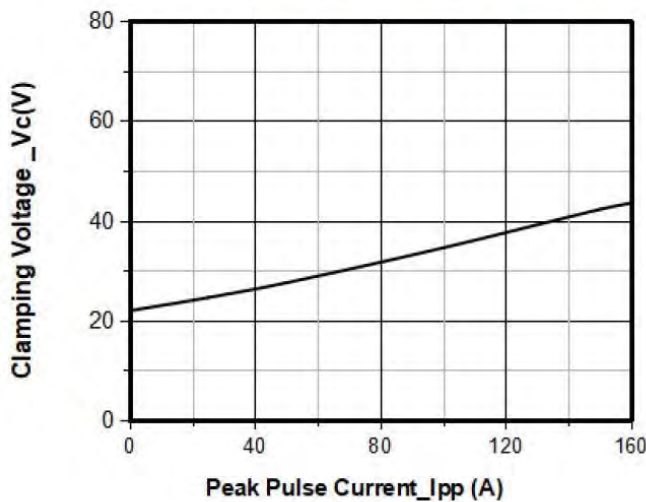
Novction Capacitance vs. Reverse Voltage



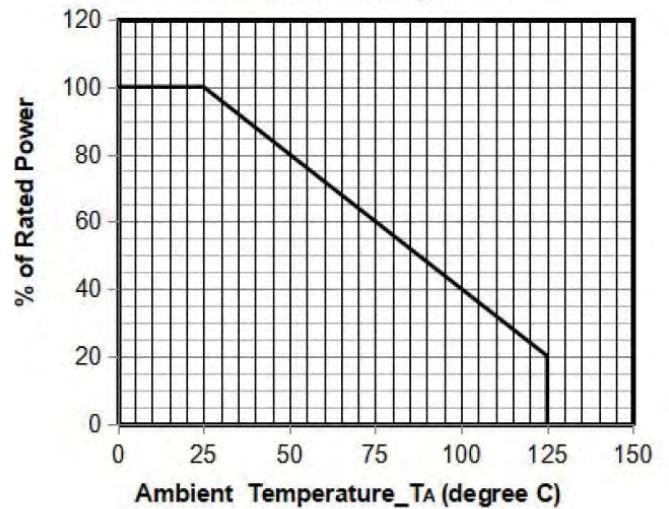
Peak Pulse Power vs. Pulse Time



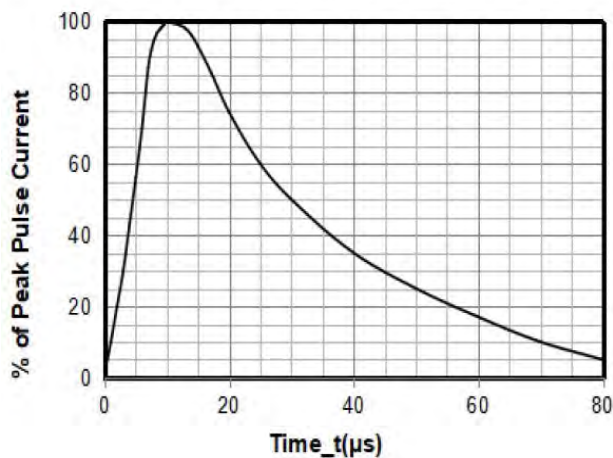
Clamping Voltage vs. Peak Pulse Current



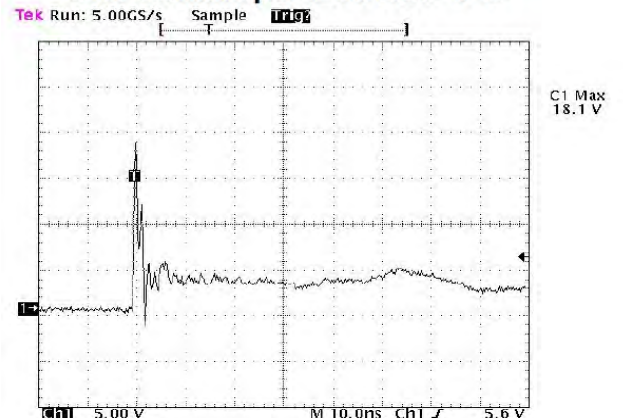
Power Derating Curve



8 X 20μs Pulse Waveform



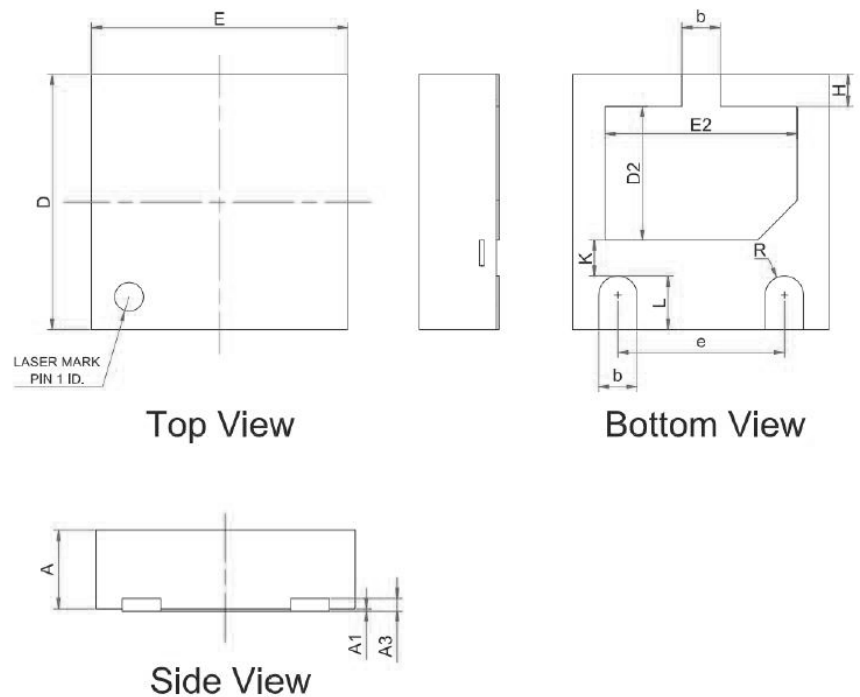
ESD Clamping Voltage
8 kV Contact per IEC61000-4-2



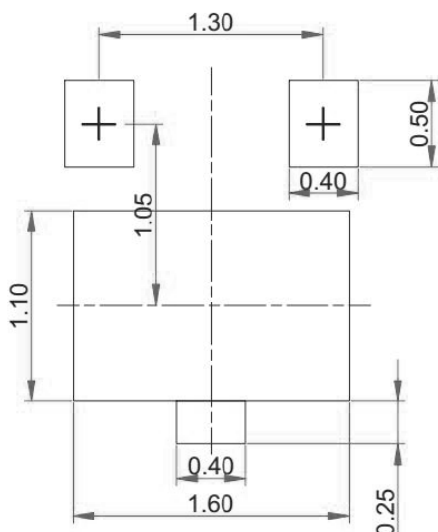
Note: Data is taken with a 10x attenuator

Package Mechanical Data

SYM	DIMENSIONS		
	MILLIMETERS		
	MIN	NOM	MAX
A	0.55	0.60	0.65
A1	0.00	0.02	0.05
A3	0.10REF		
b	0.25	--	0.35
D	1.90	--	2.10
E	1.90	--	2.10
D2	0.95	--	1.15
E2	1.40	--	1.60
e	1.20		1.40
H	0.20	--	0.30
K	0.20		0.40
L	0.35	--	0.45
R	0.13	--	--



Suggested Land Pattern



Ordering Information

Order code	Package	Base qty	Delivery mode
PTN203H410S24CA650	DFN2020	3k	Tape and reel