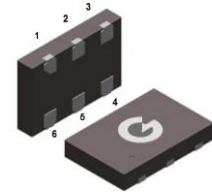
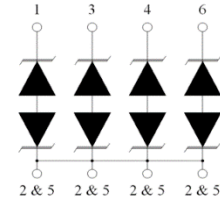


Features

- ESD / transient protection of high speed data lines
 - IEC 61000-4-2 (ESD): ± 30 kV (air), ± 30 kV (contact)
- Low reverse clamping voltage
- RoHS compliant with Halogen-free

HF



DFN3020-6L

Mechanical Data

- Case: DFN3020-6L
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
SM1238LP	DFN3020-6L	3000 pcs / Tape & Reel	1238

Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
IEC 61000-4-2; ESD (Air)	$V_{\text{ESD-A}}$	± 30	kV
IEC 61000-4-2; ESD (Contact)	$V_{\text{ESD-C}}$	± 30	kV
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	240	W

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-to-Air	$R_{\theta\text{JA}}$	286	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case	$R_{\theta\text{JC}}$	127	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Lead	$R_{\theta\text{JL}}$	74	$^\circ\text{C/W}$
Junction Temperature	T_J	$-55 \sim +125$	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	$-55 \sim +150$	$^\circ\text{C}$

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Stand-off Voltage	V_{RWM}	Pin 1, 3, 4, 6 to Pin 2 & 5	-	-	38	V
		Pin 2 & 5 to Pin 1, 3, 4, 6	-	-	12	V
Reverse Breakdown Voltage	$V_{(BR)}$	$I_T = 1\text{mA}$, Pin 1, 3, 4, 6 to Pin 2 & 5	40	-	-	V
		$I_T = 1\text{mA}$, Pin 2 & 5 to Pin 1, 3, 4, 6	13.3	-	-	V
Reverse Leakage Current	I_R	$V_{RWM} = 38\text{V}$	-	-	1	μA
		$V_{RWM} = 12\text{V}$	-	-	1	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$ Pin 1, 3, 4, 6 to Pin 2 & 5	-	-	55	V
		$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$ Pin 2 & 5 to Pin 1, 3, 4, 6	-	-	20	V
		$I_{PP} = 4\text{A}$, $t_p = 8/20\mu\text{s}$ Pin 1, 3, 4, 6 to Pin 2 & 5	-	-	64	V
		$I_{PP} = 11\text{A}$, $t_p = 8/20\mu\text{s}$ Pin 2 & 5 to Pin 1, 3, 4, 6	-	-	30	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$ Pin 1, 3, 4, 6 to Pin 2 & 5	-	-	28	pF
		$V_R = 0\text{V}$, $f = 1\text{MHz}$ Pin 2 & 5 to Pin 1, 3, 4, 6	-	-	50	pF

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

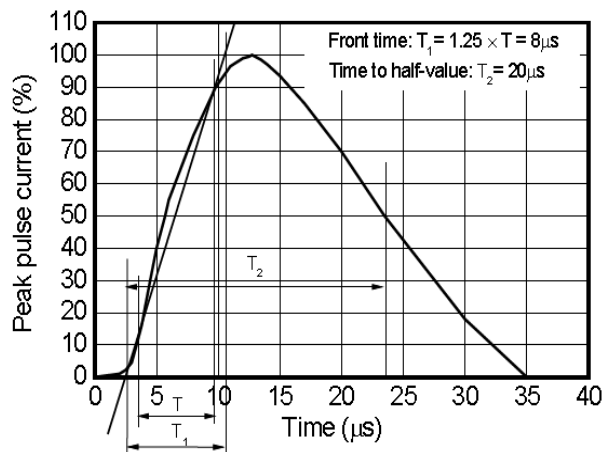


Fig 1 8/20 μs waveform per IEC61000-4-5

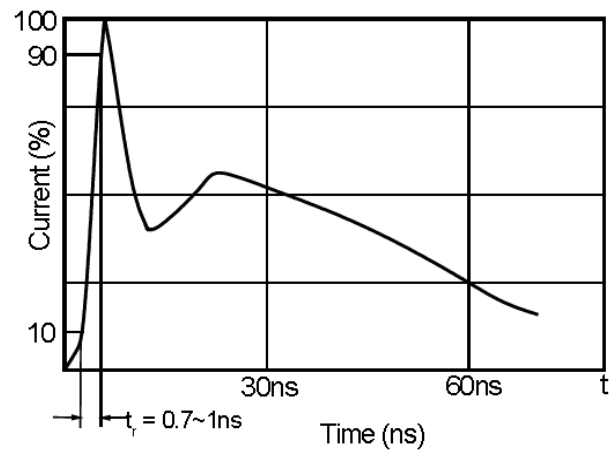


Fig 2 ESD pulse waveform according to IEC61000-4-2

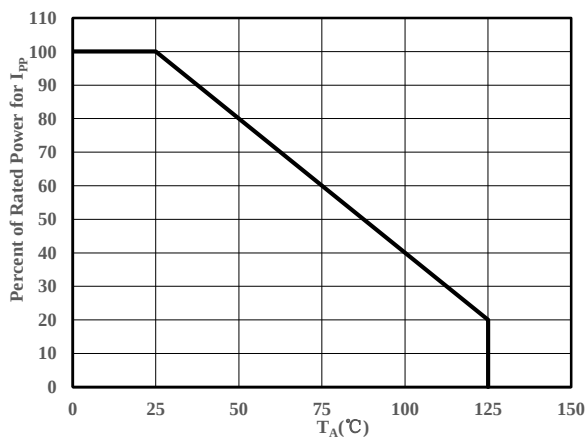


Fig 3 Power Derating Curve

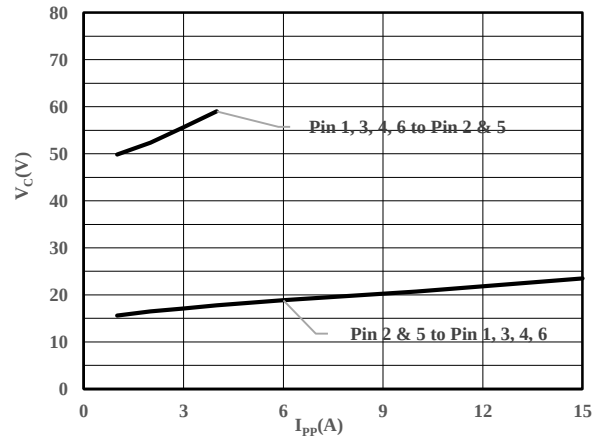
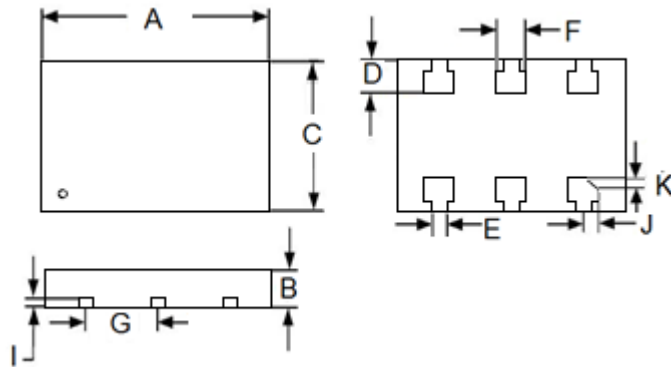


Fig 4 Clamping Voltage vs. Peak Pulse Current

Package Outline Dimensions (Unit: mm)



DFN3020-6L		
Dimension	Min.	Max.
A	2.80	3.20
B	0.40	0.60
C	1.80	2.20
D	0.35	0.55
E	0.10	0.30
F	0.30	0.50
G	0.85	1.05
I	0.05	0.25
J	0.10	0.30
K	0.05	0.25

Package Outline Dimensions (Unit: mm)

DFN3020-6L

