SMD Switching Diode

SMD Diodes Specialist

CDSNC4148

High Speed

Features

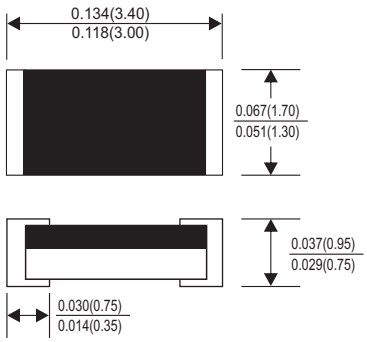
Designed for mounting on small surface.

Silicon Epitaxial Planar Diode.

Fast switching diode.

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, automotive and telecommunication.

1206



Dimensions in inches and (millimeter)

Mechanical data

Case: 1206

Marking: Cathode Band.

Weight: 0.01 gram(approx.).

Maximum Rating (at T_A=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Peak reverse voltage		V_{RM}			100	V
Reverse voltage		V_R			75	V
Forward continuous current		I_{FM}			150	mA
Average rectified current sin half wave rectification with resistive load	f >= 50 HZ	$I_{F(AV)}$			150[1)]	mA
Surge forward current	T < 1 s and Tj = 25 °C	I_{FSM}			500	mA
Power Dissipation		P_D			400[1)]	mW
Thermal Resistance Junction To ambient air		$R_{\theta JA}$		450[1)]		K/W
Storage temperature		T_{STG}	-65		+175	°C
Junction temperature		T_j			+150	°C

1) Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics (at T_A=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F = 10 mA DC	V_F			1.0	V
Reverse current	V_R = 20 V V_R = 75 V V_R = 20 V, T_J = 150°C	I_R			25 5 50	nA uA uA
Capacitance	V_F = V_R = 0V	C_T			4	pF
Reverse recovery time	I_F=10mA to I_R = 1mA,V_R=6V, R_L=100 ohms	T_{RR}			4	nS
Voltage rise when switching on	Tested with 50 mA pulses, tp = 0.1s, rise time < 30ns, fp = (5 to 100)kHz	V_{FR}			2.5	V
Rectification efficiency	f = 100MHz, V_{RF} = 2V		0.45			

RATING AND CHARACTERISTIC CURVES (CDSNC4148)

Fig. 1 - Forward characteristics

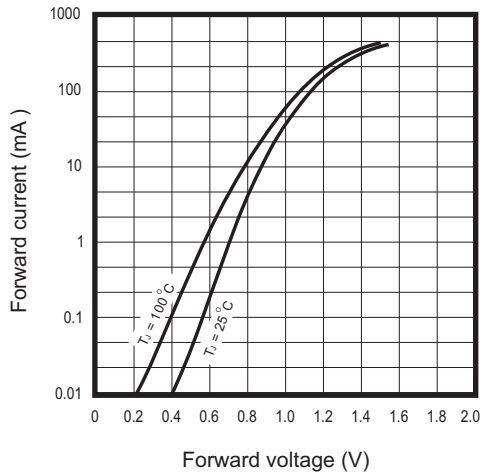


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

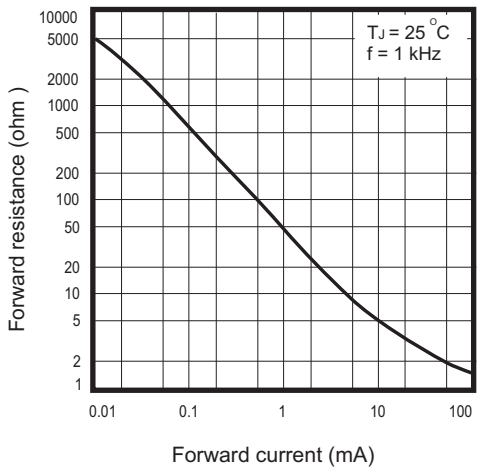


Fig.3 - Admissible Power Dissipation vs. Ambient Temperature

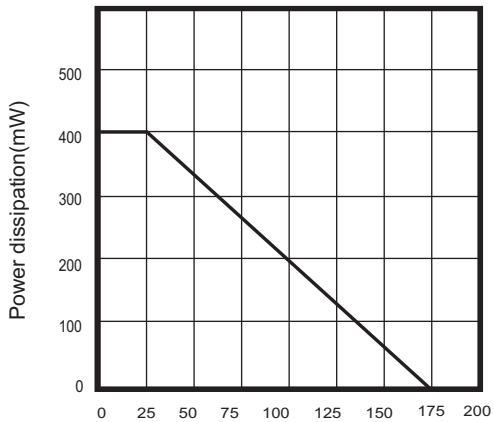


Fig.4 - Relative Capacitance vs. Reverse Voltage

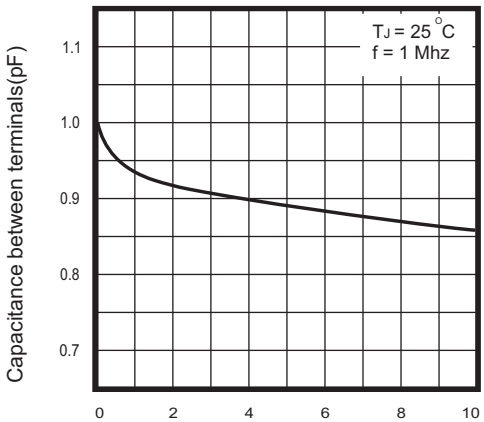


Fig.5 - Leakage Current vs. Junction Temperature

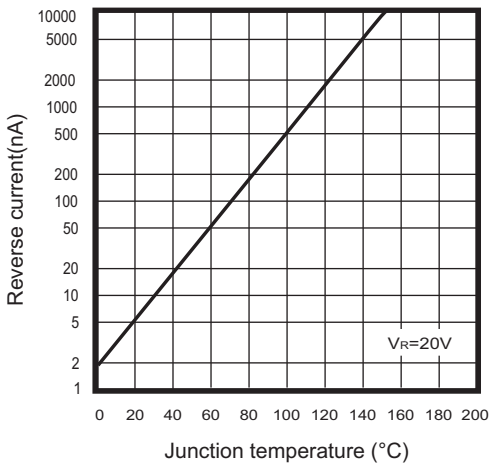
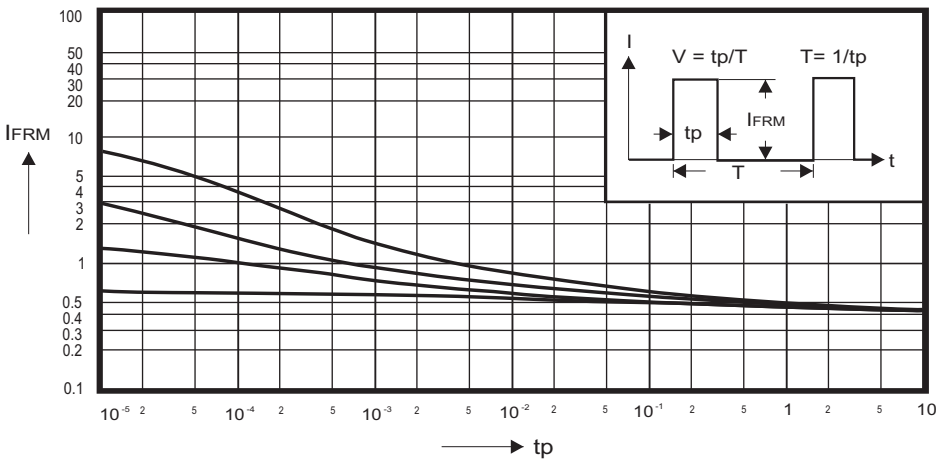
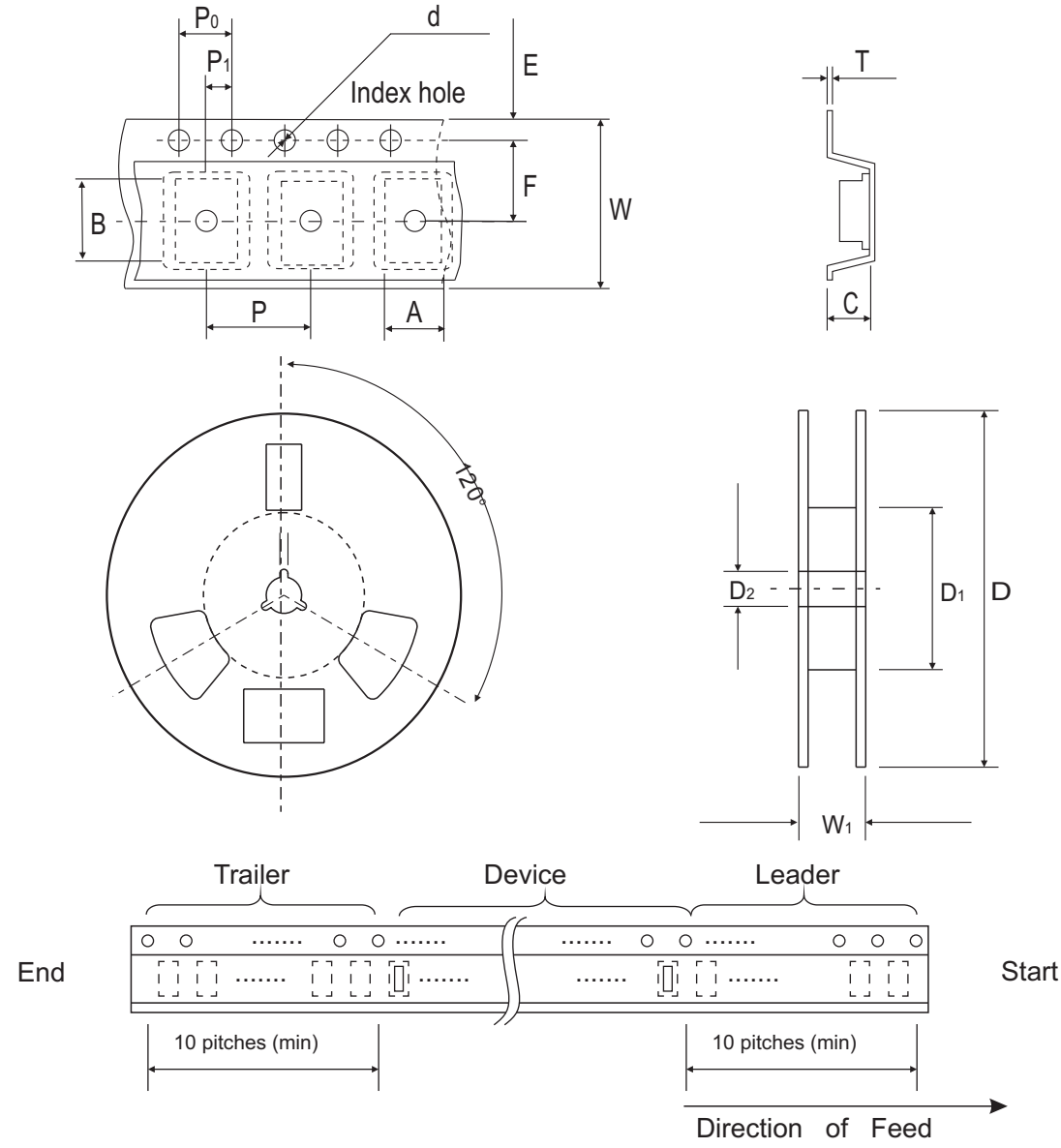


Fig.6 - Admissible Repetitive Peak Forward Current vs.Pulse Duration



Reel Taping Specification

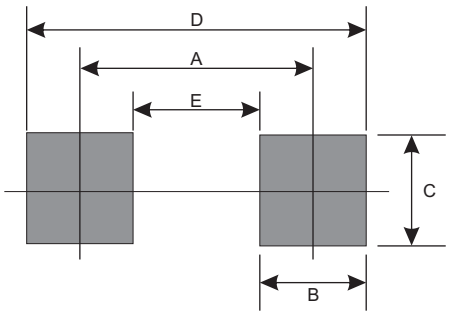


	SYMBOL	A	B	C	d	D	D_1	D_2
NC/1206	(mm)	2.00 ± 0.10	3.60 ± 0.10	0.95 ± 0.02	1.50 ± 0.05	178 ± 1	59.98 ± 0.5	13.5 ± 0.50
	(inch)	0.079 ± 0.004	0.142 ± 0.004	0.037 ± 0.001	0.059 ± 0.002	7.008 ± 0.04	2.361 ± 0.020	0.531 ± 0.020

	SYMBOL	E	F	P	P_0	P_1	T	W	W_1
NC/1206	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.05	8.00 ± 0.20	12.0 MAX.
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.002	0.315 ± 0.008	0.472 MAX.

Suggested PAD Layout

SIZE	NC/1206	
	(mm)	(inch)
A	2.795	0.110
B	0.635	0.025
C	1.700	0.067
D	3.430	0.135
E	2.160	0.085



Standard Package

Case Type	Qty per Reel	Reel Size
	(Pcs)	(inch)
NC/1206	5000	7