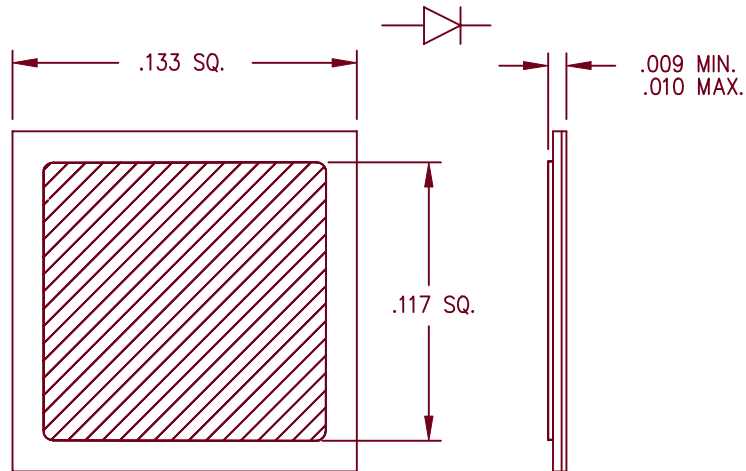


Class HC and Class KC Equivalents 1N5812-16 Ultrafast Rectifier Die



- Ultrafast Recovery Rectifier
- Glass passivated
- 20A Average, up to 150V
- Solderable silver both sides
- Available with Al top and/or gold back – contact factory
- Cells with moly discs available – contact factory

Part Number	V _{RRM}
1N5812HCE	50V
1N5812KCE	50V
1N5814HCE	100V
1N5814KCE	100V
1N5816HCE	150V
1N5816KCE	150V

Electrical Characteristics (Properly Packaged)

Average forward current	I _{F(AV)} 20 Amps	T _C = 100°C, Square wave, R _{θJC} = 1.5°C/W
Maximum surge current	I _{FSM} 400 Amps	8.3 ms, half sine, T _C = 100°C
Max peak forward voltage	V _{FM} .86 Volts	I _{FM} = 10A: T _J = 25°C*
Max peak forward voltage	V _{FM} .95 Volts	I _{FM} = 20A: T _J = 25°C*
Max peak forward voltage	V _{FM} .78 Volts	I _{FM} = 10A: T _J = 100°C*
Max peak reverse current	I _{RM} 1 mA	V _{RRM} , T _J = 100°C*
Max peak reverse current	I _{RM} 10 μA	V _{RRM} , T _J = 25°C*
Max reverse recovery time	t _{RR} 35 ns	I _F = I _R = 1A, (REC) = 0.1A, di/dt = 85A/μs
Maximum junction capacitance	C _J 300 pF	V _R = 10V, f = 1Mhz, T _J = 25°C

*Pulse test: Pulse width 300 μsec, Duty cycle 2%

Group A Die Element Evaluation Electrical Tests

Subgroup 2	Method	Symbol	Min. Limit	Max. Limit	Unit
Thermal Impedance	3101	Z _{JX}		1.35	°C/W
Forward voltage @ 10A _{pk}	4011	V _{F1}		0.86	V(pk)
Forward voltage @ 20A _{pk}	4011	V _{F2}		0.95	V _{dc} (pk)
Reverse voltage @ rated V _R	4016	I _{R1}		10	μA dc
Breakdown voltage @ 100μA dc	4021	V(BR) ₁			μA dc
1N5812			60		V _{dc}
1N5814			110		V _{dc}
1N5816			160		V _{dc}
Subgroup 3					
Reverse current @ rated V _R , 100°C	4016	I _{R2}		1.00	mA dc
Forward voltage @ 10A _{pk} , 100°C	4011	V _{F3}		0.78	V(pk)
Forward voltage @ 10A _{pk} , -65°C	4011	V _{F3}		1.05	V(pk)
Breakdown volt. @ 100μA, -65°C	4021	V(BR)			V(pk)
1N5812			50		
1N5814			100		
1N5816			150		
Subgroup 4					
Reverse recovery time	4031	t _{rr}		35	ns
Capacitance @ V _R = 10V	4001	C _J		300	pF
Forward recovery voltage	4026	V _{FR}		2.2	V(pk)
Forward recovery time	4026	t _{rr}		15	ns

7-30-01 Rev. IR