

Surface Mount Super Fast Recovery Rectifier Diode

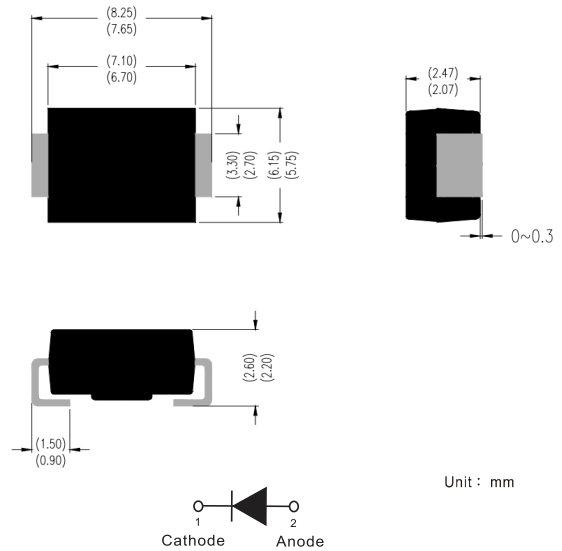
Features

- Glass passivated junction chip
- Ideal for automated placement
- Super fast recovery time for high efficiency
- High forward surge capability
- AEC-Q101 qualified
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Mechanical Data

- **Package:** DO-214AB (SMC)
- **Polarity:** Color band denotes the cathode end
- **Epoxy:** UL 94V-0 rate flame retardant
- **Mounting Position:** Any

DO-214AB (SMC)



Absolute Maximum Ratings and Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	ES10A CQ	ES10B CQ	ES10C CQ	ES10D CQ	ES10E CQ	ES10G CQ	ES10J CQ	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current @ Fig.1	I _{F(AV)}	10							A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	240							A
Peak Forward Surge Current,1.0ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	480							A
I ² t Rating for fusing (3ms≤t≤8.3ms)	I ² t	239							A ² S
Max Instantaneous Forward Voltage at 10 A	V _F	1.0				1.3		1.7	V
Maximum DC Reverse Current at Rated DC Reverse Voltage T _a = 25°C T _a =125°C	I _R	10 500							μA
Typical Junction Capacitance ⁽¹⁾	C _j	280				190		100	pF
Maximum Reverse Recovery Time ⁽²⁾	t _{rr}	35							ns
Typical Thermal Resistance ⁽³⁾	R _{θJA} R _{θJC} R _{θJL}	37 10 13							°C/W
Operating and Storage Temperature Range	T _j , T _{stg}	-55 ~ +150							°C

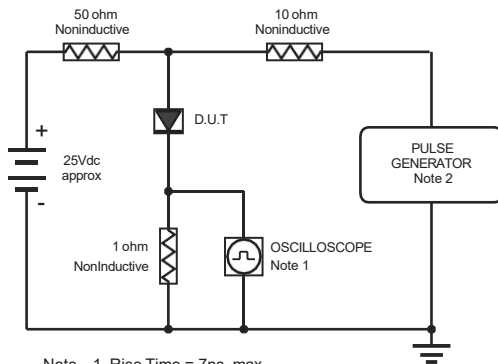
(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) Measured with I_F = 0.5 A, I_R = 1 A, t_{rr} = 0.25 A.

(3) P.C.B. mounted with 1.5" X 1.5" (3.81 X 3.81 cm) copper pad areas.



Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note: 1. Rise Time = 7ns, max.
Input Impedance = 1megohm, 22pF.
2. Rise Time = 10ns, max.
Source Impedance = 50 ohms.

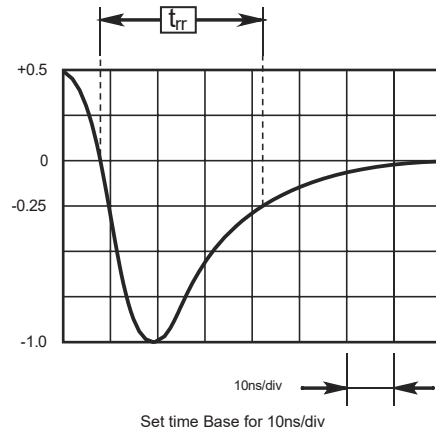


Fig.2 Maximum Average Forward Current Rating

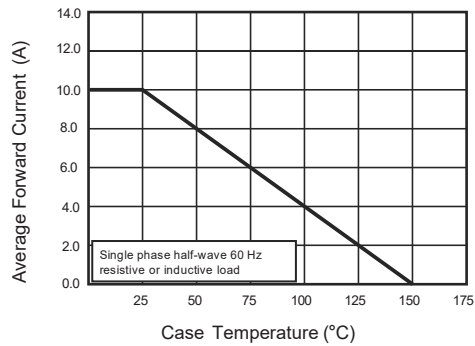


Fig.3 Typical Reverse Characteristics

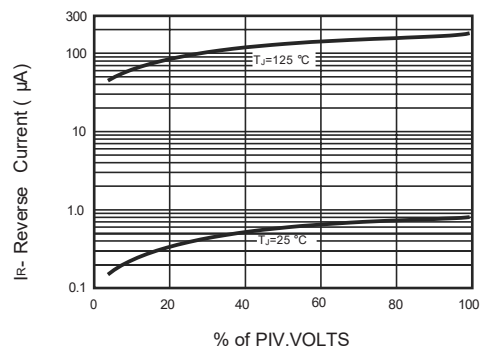


Fig.4 Typical Forward Characteristics

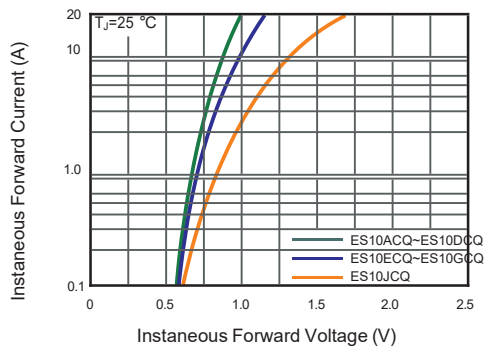


Fig.4 Typical Junction Capacitance

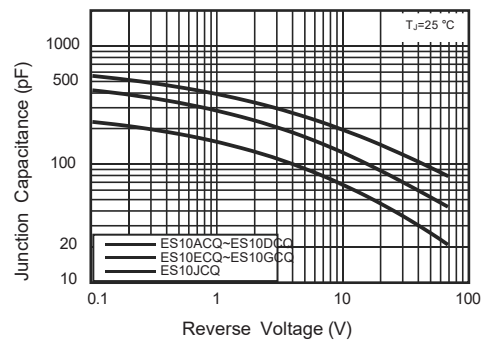


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

