TAYCHIPST

Small Surface Mount Ultrafast Diodes

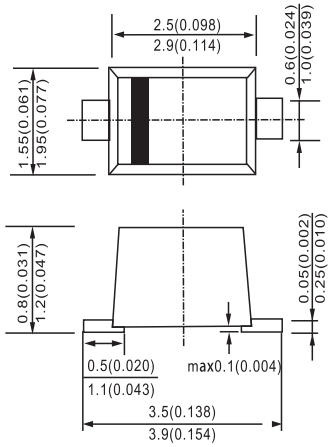
ES07B THRU ES07D

100V-200V 0.5A

FEATURES

- For surface mounted applications
- Low profile package
- Ideal for automated placement
- Glass passivated
- High temperature soldering: 260 °C/ 10 seconds at terminals
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

SOD-123FL



Dimensions in millimeters

MECHANICAL DATA

Case: JEDEC DO-219AB (SMF®) Plastic case

Polarity: Band denotes cathode end

Weight: approx. 15 mg

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Maximum repetitive peak reverse voltage		ES07B	V_{RRM}	100	V
		ES07D	V_{RRM}	200	V
Maximum RMS voltage		ES07B	V_{RMS}	70	V
		ES07D	V_{RMS}	140	V
Maximum DC blocking voltage		ES07B	V_{DC}	100	V
		ES07D	V_{DC}	200	V
Maximum average forward rectified current	T_{tp} = 105 °C		$I_{F(AV)}$	1.2	A
	T_A = 65 °C[1)]		$I_{F(AV)}$	0.5	A
Peak forward surge current 8.3 ms single half sine-wave	T_L = 25 °C		I_{FSM}	30	A

1) Mounted on epoxy glass PCB with 3 x 3 mm, Cu pads (≥ 40 µm thick)

Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Maximum instantaneous forward voltage	1.0 A[3)]	V_F			0.98	V
Maximum DC reverse current at rated DC blocking voltage	T_A = 25°C	I_R			10	µA
	T_A = 100°C	I_R			50	µA
Reverse recovery time	I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A	t_{rr}			25	ns
Typical capacitance	4 V, 1 MHz	C_j		4		pF

2) Pulse test, 300 µs pulse with 1 % duty cycle

RATINGS AND CHARACTERISTIC CURVES ES07B THRU ES07D

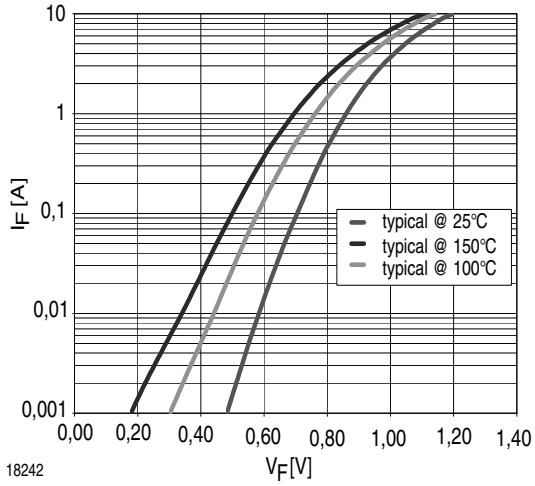


Figure 1. Typical Forward Characteristics

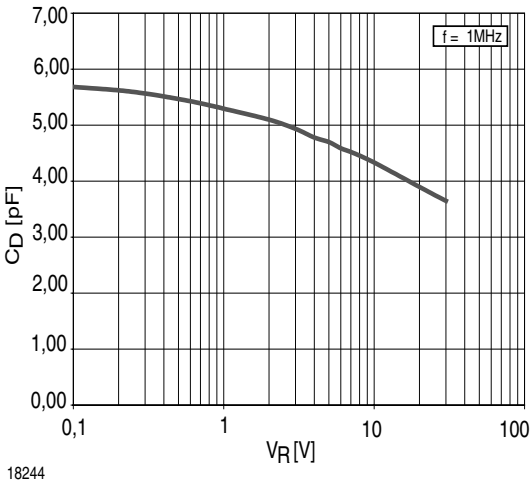


Figure 3. Typ. Diode Capacitance vs. Reverse Voltage

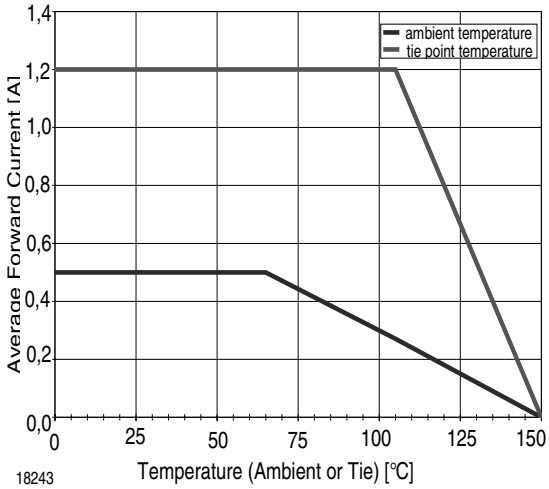


Figure 2. Forward Current Derating Curve

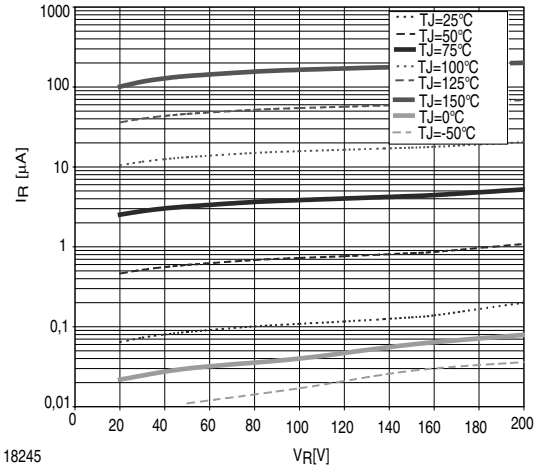


Figure 4. Typical Reverse Characteristics