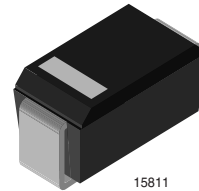


Fast Avalanche SMD Rectifier

Features

- Glass passivated junction
- Low reverse current
- High reverse voltage
- Fast reverse recovery time
- Wave and reflow solderable



Applications

Freewheeling diodes in SMPS and converters
Snubber diodes

Parts Table

Part	Type differentiation	Package
BYG23M	$V_R = 1000\text{ V @ } I_{FAV} = 1.5\text{ A}$	DO-214AC

Absolute Maximum Ratings

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

Parameter	Test condition	Part	Symbol	Value	Unit
Reverse voltage = Repetitive peak reverse voltage			$V_R = V_{RRM}$	1000	V
Peak forward surge current	$t_p = 10\text{ ms}$, half sinewave		I_{FSM}	30	A
Average forward current	$T_{amb} = 65\text{ °C}$		I_{FAV}	1.5	A
Junction and storage temperature range			$T_J = T_{stg}$	- 55 to + 150	°C
Pulse energy in avalanche mode, non repetitive (inductive load switch off)	$I_{(BR)R} = 1\text{ A}$		E_R	20	mJ

Maximum Thermal Resistance

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

Parameter	Test condition	Part	Symbol	Value	Unit
Junction case			R_{thJC}	25	K/W
Junction ambient	mounted on epoxy-glass hard tissue, 17 mm ² 35 μm Cu		R_{thJA}	150	K/W
	mounted on epoxy-glass hard tissue, 50 mm ² 35 μm Cu		R_{thJA}	125	K/W
	mounted on Al-oxid-ceramic (Al ₂ O ₃), 50 mm ² 35 μm Cu		R_{thJA}	100	K/W

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Forward voltage	$I_F = 1.0\text{ A}$		V_F			1.7	V
	$I_F = 1.0\text{ A}$, $T_J = 150\text{ }^{\circ}\text{C}$		V_F			1.35	V
Reverse current	$V_R = V_{RRM}$		I_R			5	μA
	$V_R = V_{RRM}$, $T_J = 125\text{ }^{\circ}\text{C}$		I_R			50	μA
Breakdown voltage	$I_R = 100\text{ }\mu\text{A}$		$V_{(BR)R}$	1000			V
Reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $i_R = 0.25\text{ A}$		t_{rr}			75	ns

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

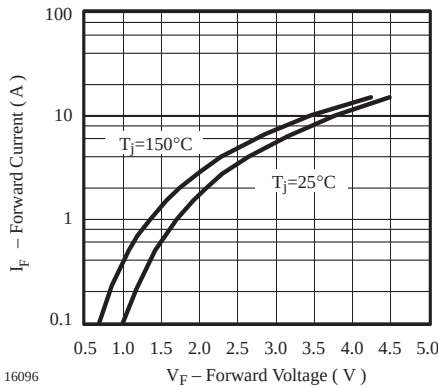


Figure 1. Max. Forward Current vs. Forward Voltage

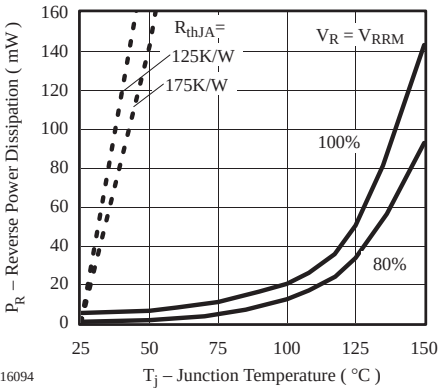


Figure 3. Max. Reverse Power Dissipation vs. Junction Temperature

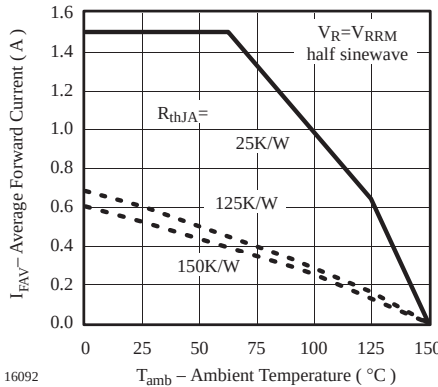


Figure 2. Max. Average Forward Current vs. Ambient Temperature

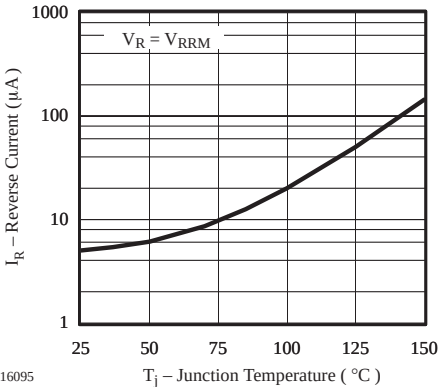


Figure 4. Max. Reverse Current vs. Junction Temperature

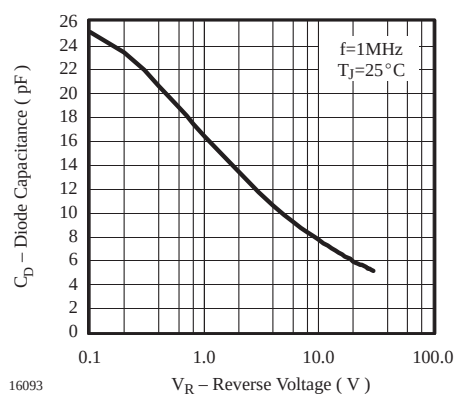
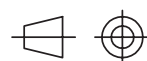
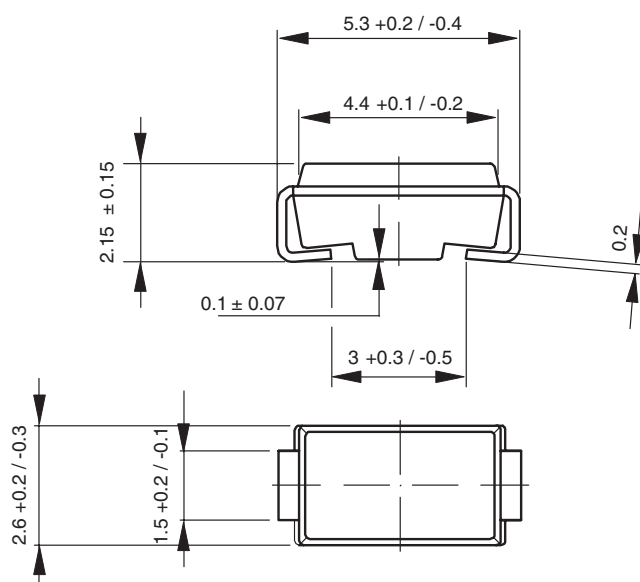


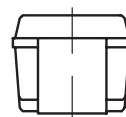
Figure 5. Typ. Diode Capacitance vs. Reverse Voltage

Package Dimensions in mm



ISO Method E

technical drawings
according to DIN
specifications



Plastic case JEDEC DO 214
similar to SMA
Cathode indicated by a band

14275-1



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