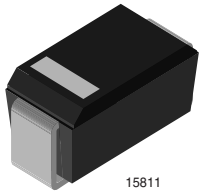
Ultra Fast Avalanche SMD Rectifier

Features

- Controlled avalanche characteristic
- Glass passivated junction
- Low reverse current
- Low forward voltage
- Soft recovery characteristic
- Very fast reverse recovery time
- Good switching characteristics
- Wave and reflow solderable



Applications

Surface mounting
Super fast rectifier
Freewheeling diodes in SMPS and converters
Snubber diodes

Parts Table

Part	Type differentiation	Package
BYG22A	V_R = 50 V @ I_{FAV} = 2 A	DO-214AC
BYG22B	V_R = 100 V @ I_{FAV} = 2 A	DO-214AC
BYG22D	V_R = 200 V @ I_{FAV} = 2 A	DO-214AC

Absolute Maximum Ratings

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

Parameter	Test condition	Part	Symbol	Value	Unit
Reverse voltage = Repetitive peak reverse voltage		BYG22A	$V_R = V_{RRM}$	50	V
		BYG22B	$V_R = V_{RRM}$	100	V
		BYG22D		200	V
Peak forward surge current	t_p = 10 ms, half sinewave		I_{FSM}	35	A
Average forward current			I_{FAV}	2	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 A, T_j = 25 °C		E_R	20	mJ

Maximum Thermal Resistance

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

Parameter	Test condition	Part	Symbol	Value	Unit
Junction lead	T_L = const.		R_{thJL}	25	K/W
Junction ambient	mounted on epoxy-glass hard tissue		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_2O_3), 50 mm^2 35 µm Cu		R_{thJA}	100	K/W

Electrical Characteristics

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

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_F = 1 A		V_F			1	V
	I_F = 2 A		V_F			1.1	V
Reverse current	$V_R = V_{RRM}$		I_R			1	µA
	$V_R = V_{RRM}$, T_j =100 °C		I_R			10	µA
Reverse recovery time	I_F = 0.5 A, I_R = 1 A, i_R = 0.25 A		t_{rr}			25	ns

Typical Characteristics (Tamb = 25 °C unless otherwise specified)

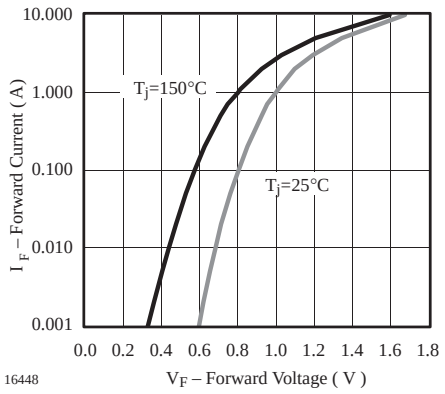


Figure 1. Forward Current vs. Forward Voltage

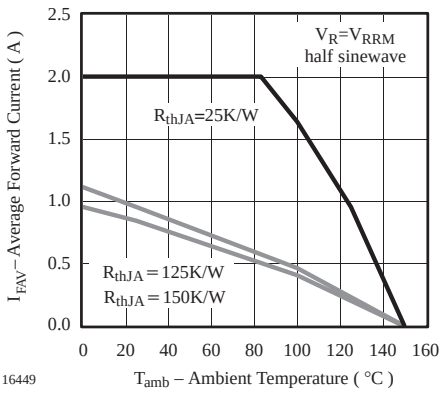


Figure 2. Max. Average Forward Current vs. Ambient Temperature

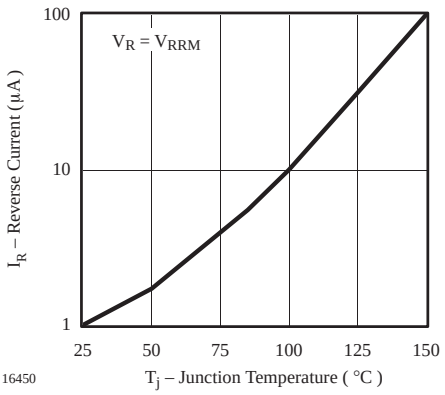


Figure 3. Reverse Current vs. Junction Temperature

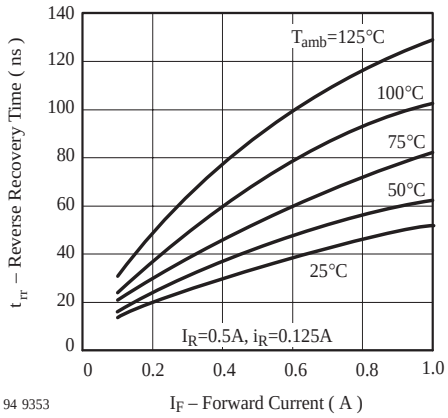


Figure 6. Max. Reverse Recovery Time vs. Forward Current

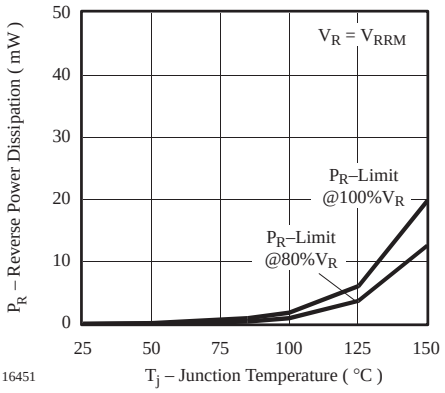


Figure 4. Max. Reverse Power Dissipation vs. Junction Temperature

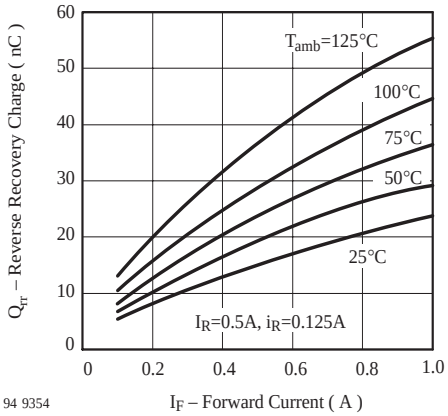


Figure 7. Max. Reverse Recovery Charge vs. Forward Current

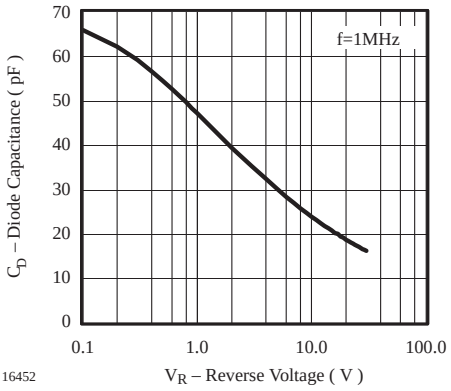


Figure 5. Diode Capacitance vs. Reverse Voltage

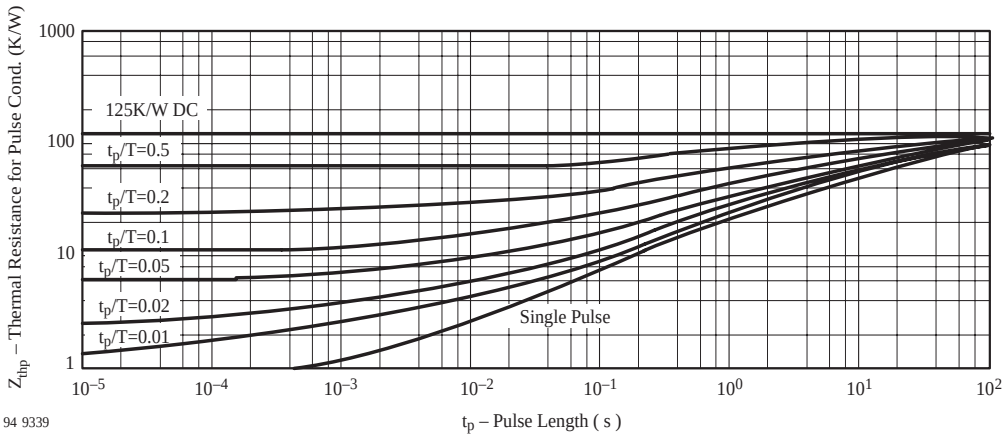
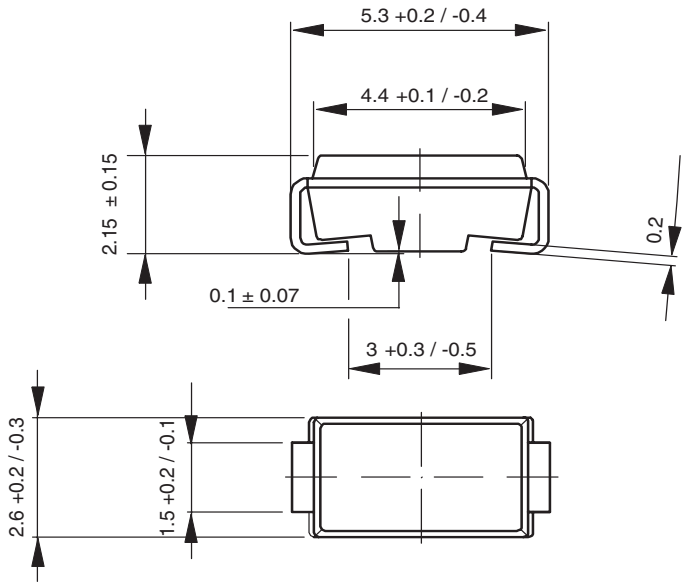
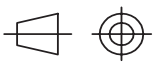


Figure 8. Thermal Response

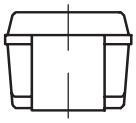
Package Dimensions in mm (Inches)





ISO Method E

technical drawings
according to DIN
specifications



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

littlediode
COMPONENTS FOR ALL

Littlediode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.