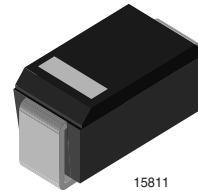


Standard Avalanche Sinterglass Diode

Features

- Controlled avalanche characteristics
- Glass passivated junction
- Low reverse current
- High surge current capability
- Wave and reflow solderable



Applications

Surface mounting

General purpose rectifier

Parts Table

Part	Type differentiation	Package
BYG10D	$V_R = 200 \text{ V @ } I_{FAV} = 1.5 \text{ A}$	DO-214AC
BYG10G	$V_R = 400 \text{ V @ } I_{FAV} = 1.5 \text{ A}$	DO-214AC
BYG10J	$V_R = 600 \text{ V @ } I_{FAV} = 1.5 \text{ A}$	DO-214AC
BYG10K	$V_R = 800 \text{ V @ } I_{FAV} = 1.5 \text{ A}$	DO-214AC
BYG10M	$V_R = 1000 \text{ V @ } I_{FAV} = 1.5 \text{ A}$	DO-214AC
BYG10Y	$V_R = 1600 \text{ V @ } I_{FAV} = 1.5 \text{ A}$	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		BYG10D	$V_R = V_{RRM}$	200	V
		BYG10G	$V_R = V_{RRM}$	400	V
		BYG10J	$V_R = V_{RRM}$	600	V
		BYG10K	$V_R = V_{RRM}$	800	V
		BYG10M	$V_R = V_{RRM}$	1000	V
		BYG10Y	$V_R = V_{RRM}$	1600	V
Peak forward surge current	$t_p = 10 \text{ ms}$, half sinewave		I_{FSM}	30	A
Average forward current			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)	$I_{(BR)R} = 1 \text{ A}$, $T_j = 25 \text{ °C}$	BYG10D-BYG10M	E_R	20	mJ

Maximum Thermal Resistance

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

Parameter	Test condition	Part	Symbol	Value	Unit
Junction lead	$T_L = \text{const.}$		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 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	$I_F = 1\text{ A}$		V_F			1.1	V
	$I_F = 1.5\text{ A}$		V_F			1.15	V
Reverse current	$V_R = V_{RRM}$		I_R			1	μA
	$V_R = V_{RRM}$, $T_j = 100\text{ }^{\circ}\text{C}$		I_R			10	μA
Reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $i_R = 0.25\text{ A}$		t_{rr}			4	μs

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

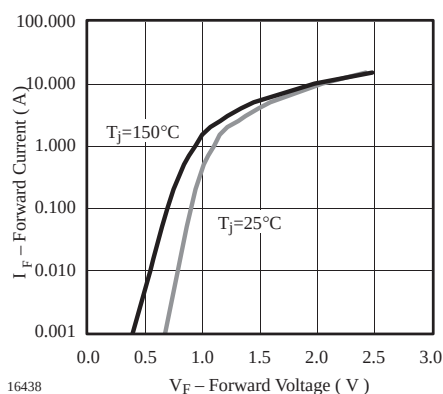


Figure 1. Forward Current vs. Forward Voltage

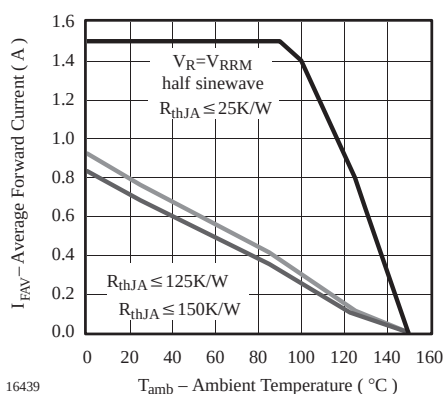


Figure 2. Max. Average Forward Current vs. Ambient Temperature

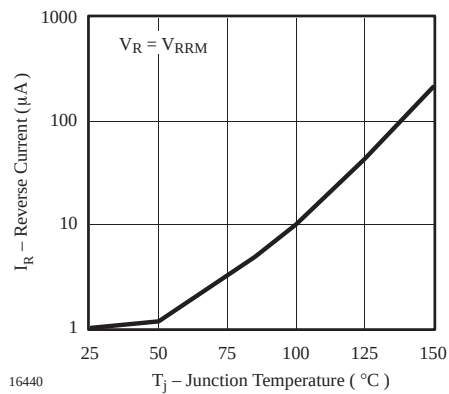


Figure 3. Reverse Current vs. Junction Temperature

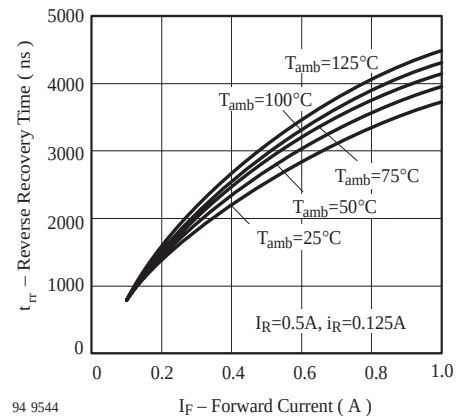


Figure 6. Typ. Reverse Recovery Time vs. Forward Current

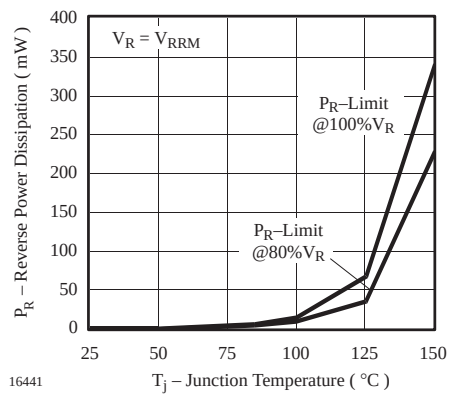


Figure 4. Max. Reverse Power Dissipation vs. Junction Temperature

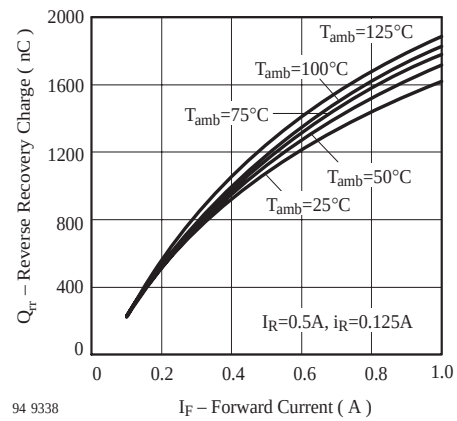


Figure 7. Typ. Reverse Recovery Charge vs. Forward Current

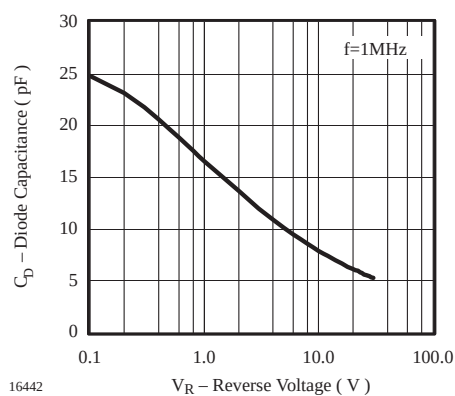


Figure 5. Diode Capacitance vs. Reverse Voltage

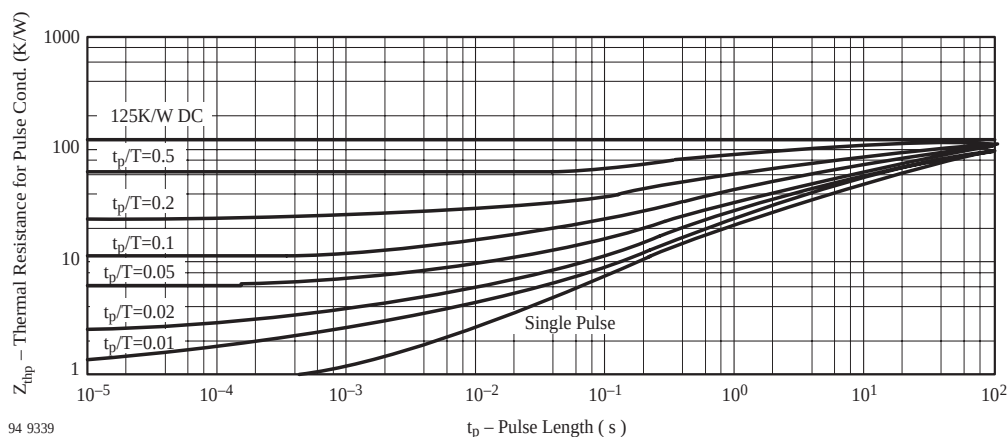
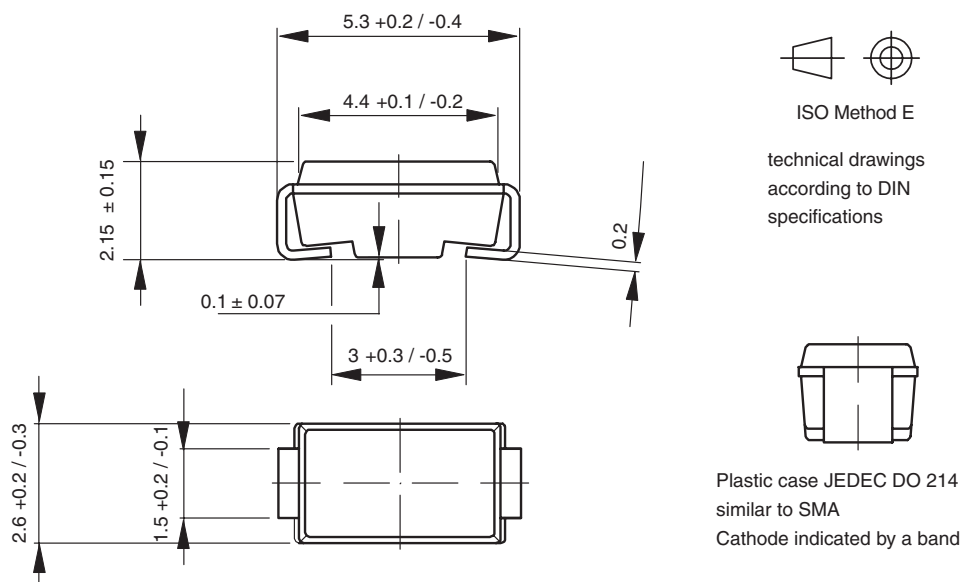


Figure 8. Thermal Response

Package Dimensions in mm



14275-1