TOP ONE SEMI CONDUCTOR

Silicon Mesa SMD Rectifier

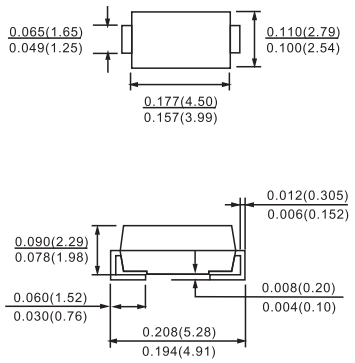
BYG10D THRU BYG10M

200V-1000V 1.5A

FEATURES

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

DO-214AC(SMA)



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings

Parameter	Test Conditions	Type	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
Peak forward surge current	t_p=10ms, half sinewave		I_{FSM}	30	A
Average forward current			I_{FAV}	1.5	A
Junction and storage temperature range			$T_j=T_{stg}$	–55...+150	˚C
Pulse energy in avalanche mode, non repetitive (inductive load switch off)	$I_{(BR)R}$=1A, T_j=25˚C		E_R	20	mJ

Maximum Thermal Resistance

Parameter	Test Conditions	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, 50mm^2 35µm Cu	R_{thJA}	125	K/W
	mounted on Al–oxid–ceramic (Al_2O_3), 50mm^2 35µm Cu	R_{thJA}	100	K/W

Electrical Characteristics

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=1A		V_F			1.1	V
	I_F=1.5A		V_F			1.15	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=0.5A, I_R=1A, i_R=0.25A		t_{rr}			4	µs

RATINGS AND CHARACTERISTIC CURVES BYG10D THRU BYG10M

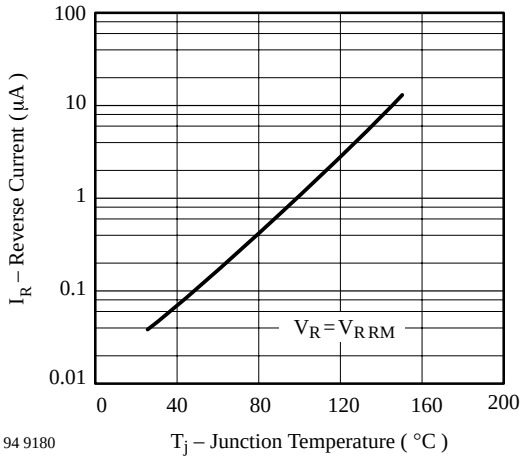


Figure 1. Typ. Reverse Current vs. Junction Temperature

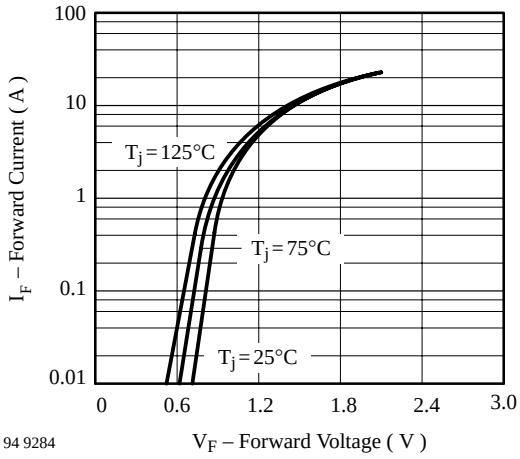


Figure 3. Typ. Forward Current vs. Forward Voltage

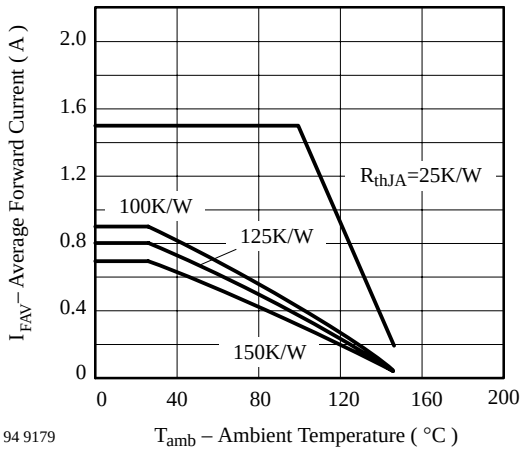


Figure 2. Max. Average Forward Current vs. Ambient Temperature

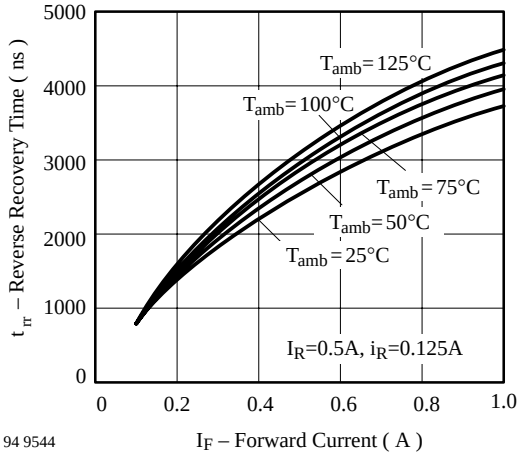


Figure 4. Typ. Reverse Recovery Time vs. Forward Current

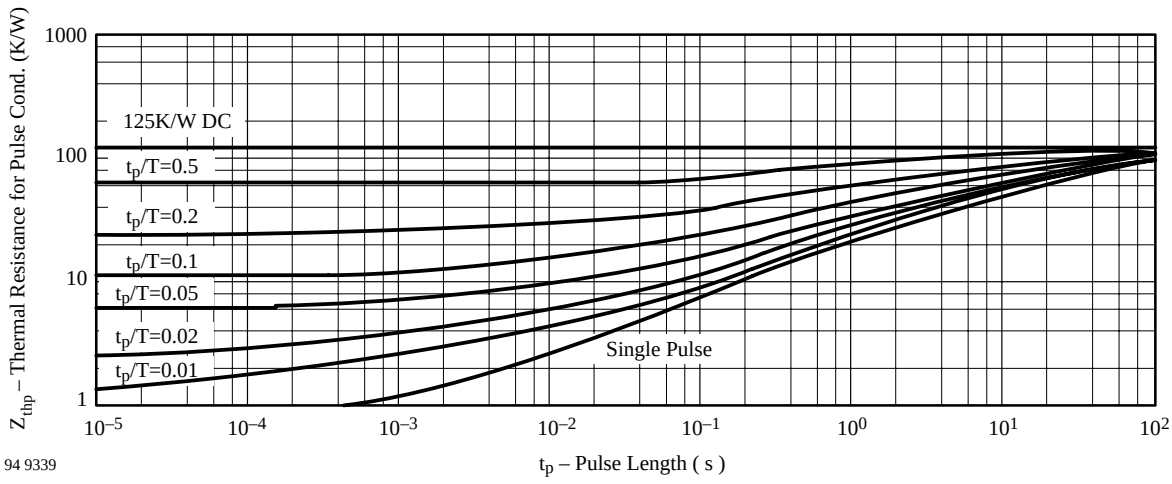


Figure 5. Thermal Response