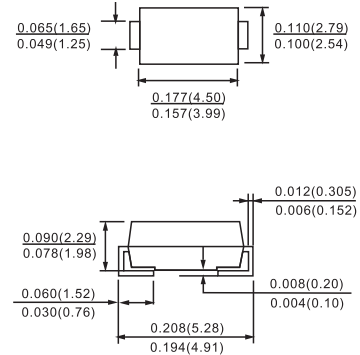


## FEATURES

- Glass passivated
- High maximum operating temperature
- Low leakage current
- Excellent stability
- Guaranteed avalanche energy absorption capability
- UL 94V-O classified plastic package
- Shipped in 12 mm embossed tape.

## DO-214AC(SMA)



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

### LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>RRM</sub>	repetitive peak reverse voltage				
	BYG50D		-	200	V
	BYG50G		-	400	V
	BYG50J		-	600	V
	BYG50K		-	800	V
	BYG50M		-	1000	V
V <sub>R</sub>	continuous reverse voltage				
	BYG50D		-	200	V
	BYG50G		-	400	V
	BYG50J		-	600	V
	BYG50K		-	800	V
	BYG50M		-	1000	V
I <sub>F(AV)</sub>	average forward current	averaged over any 20 ms period; T <sub>tp</sub> = 100 °C; see Fig.2	-	2.1	A
		averaged over any 20 ms period; Al <sub>2</sub> O <sub>3</sub> PCB mounting (see Fig.7); T <sub>amb</sub> = 60 °C; see Fig.3	-	1.0	A
		averaged over any 20 ms period; epoxy PCB mounting (see Fig.7); T <sub>amb</sub> = 60 °C; see Fig.3	-	0.7	A
I <sub>FSM</sub>	non-repetitive peak forward current	t = 10 ms half sinewave; T <sub>j</sub> = T <sub>jmax</sub> prior to surge; V <sub>R</sub> = V <sub>RRMmax</sub>	-	30	A

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
E <sub>RSM</sub>	non-repetitive peak reverse avalanche energy	L = 120 mH; T <sub>j</sub> = T <sub>j max</sub> prior to surge; inductive load switched off			
	BYG50D to J		–	10	mJ
	BYG50K and M		–	7	mJ
T <sub>stg</sub>	storage temperature		–65	+175	°C
T <sub>j</sub>	junction temperature	see Fig.4	–65	+175	°C

## ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT	
V <sub>F</sub>	forward voltage	I <sub>F</sub> = 1 A; T <sub>j</sub> = T <sub>j max</sub> ; see Fig.5	–	–	0.85	V	
		I <sub>F</sub> = 1 A; see Fig.5	–	–	1.00	V	
V <sub>(BR)R</sub>	reverse avalanche breakdown voltage	I <sub>R</sub> = 0.1 mA					
			BYG50D	300	–	–	V
			BYG50G	500	–	–	V
			BYG50J	700	–	–	V
			BYG50K	900	–	–	V
	BYG50M	1100	–	–	V		
I <sub>R</sub>	reverse current	V <sub>R</sub> = V <sub>RRMmax</sub> ; see Fig.6	–	–	1	μA	
		V <sub>R</sub> = V <sub>RRMmax</sub> ; T <sub>j</sub> = 165 °C; see Fig.6	–	–	100	μA	
t <sub>rr</sub>	reverse recovery time	when switched from I <sub>F</sub> = 0.5 A to I <sub>R</sub> = 1 A; measured at I <sub>R</sub> = 0.25 A; see Fig.8	–	2	–	μs	

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R <sub>th j-tp</sub>	thermal resistance from junction to tie-point		25	K/W
R <sub>th j-a</sub>	thermal resistance from junction to ambient	note 1	100	K/W
		note 2	150	K/W

### Notes

1. Device mounted on Al<sub>2</sub>O<sub>3</sub> printed-circuit board, 0.7 mm thick; thickness of copper ≥35 μm, see Fig.7.
2. Device mounted on epoxy-glass printed-circuit board, 1.5 mm thick; thickness of copper ≥40 μm, see Fig.7.  
For more information please refer to the "General Part of associated Handbook".

## RATINGS AND CHARACTERISTIC CURVES

## BYG50D THRU BYG50M

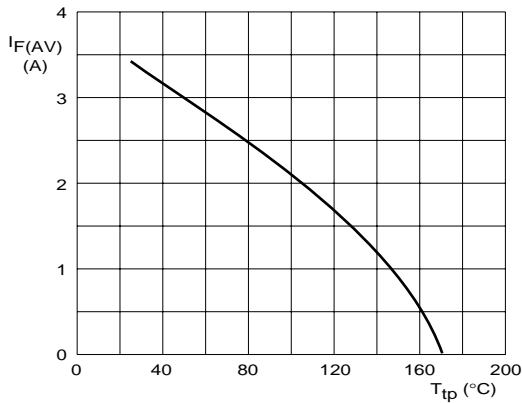


Fig.1 Maximum permissible average forward current as a function of tie-point temperature

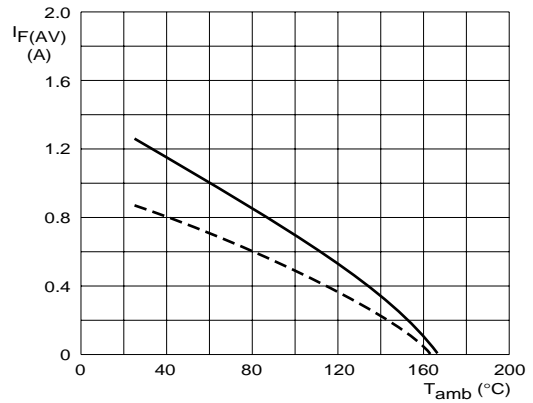


Fig.2 Maximum permissible average forward current as a function of ambient temperature

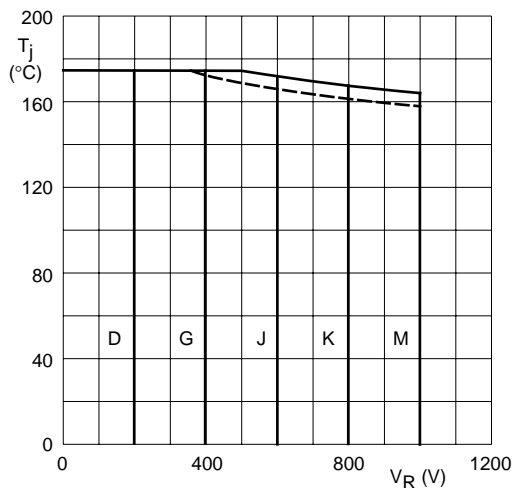


Fig.3 Maximum permissible junction temperature as a function of reverse voltage.

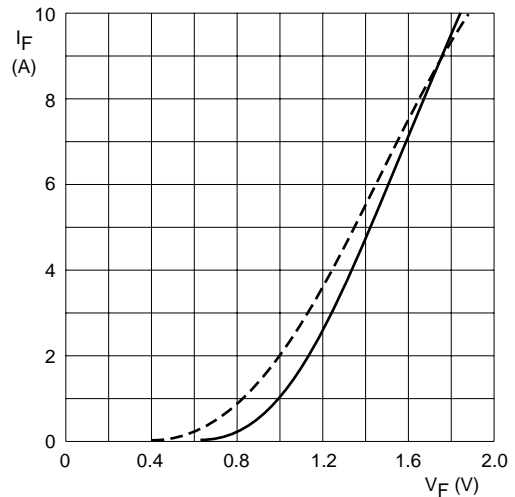


Fig. 4 Forward current as a function of forward voltage; maximum values.

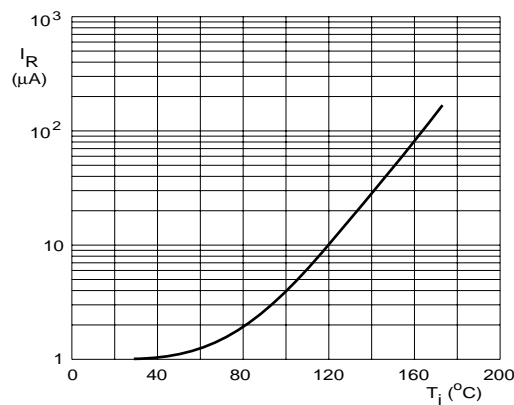


Fig.5 Reverse current as a function of junction temperature; maximum values.