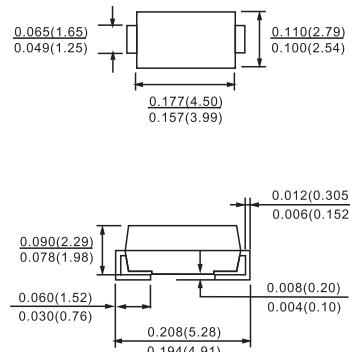


FEATURES

- 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_{RRM}	repetitive peak reverse voltage BYG50D BYG50G BYG50J BYG50K BYG50M		-	200 400 600 800 1000	V
V_R	continuous reverse voltage BYG50D BYG50G BYG50J BYG50K BYG50M		-	200 400 600 800 1000	V
$I_F(AV)$	average forward current	averaged over any 20 ms period; $T_{tp} = 100^\circ\text{C}$; see Fig.2	-	2.1	A
		averaged over any 20 ms period; Al_2O_3 PCB mounting (see Fig.7); $T_{amb} = 60^\circ\text{C}$; see Fig.3	-	1.0	A
		averaged over any 20 ms period; epoxy PCB mounting (see Fig.7); $T_{amb} = 60^\circ\text{C}$; see Fig.3	-	0.7	A
I_{FSM}	non-repetitive peak forward current	$t = 10$ ms half sinewave; $T_j = T_{j \max}$ prior to surge; $V_R = V_{RRM\max}$	-	30	A

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
E_{RSM}	non-repetitive peak reverse avalanche energy BYG50D to J BYG50K and M	$L = 120 \text{ mH}; T_j = T_{j\max}$ prior to surge; inductive load switched off	—	10	mJ
T_{stg}	storage temperature		-65	+175	°C
T_j	junction temperature	see Fig.4	-65	+175	°C

ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_F	forward voltage	$I_F = 1 \text{ A}; T_j = T_{j\max}$; see Fig.5	—	—	0.85	V
		$I_F = 1 \text{ A}$; see Fig.5	—	—	1.00	V
$V_{(BR)R}$	reverse avalanche breakdown voltage BYG50D BYG50G BYG50J BYG50K BYG50M	$I_R = 0.1 \text{ mA}$	300	—	—	V
			500	—	—	V
			700	—	—	V
			900	—	—	V
			1100	—	—	V
			—	—	1	μA
I_R	reverse current	$V_R = V_{RRM\max}$; see Fig.6	—	—	100	μA
t_{rr}	reverse recovery time	when switched from $I_F = 0.5 \text{ A}$ to $I_R = 1 \text{ A}$; measured at $I_R = 0.25 \text{ A}$; see Fig.8	—	2	—	μs

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th j\text{-}tp}$	thermal resistance from junction to tie-point		25	K/W
$R_{th j\text{-}a}$	thermal resistance from junction to ambient	note 1	100	K/W
		note 2	150	K/W

Notes

1. Device mounted on Al_2O_3 printed-circuit board, 0.7 mm thick; thickness of copper $\geq 35 \mu\text{m}$, see Fig.7.
2. Device mounted on epoxy-glass printed-circuit board, 1.5 mm thick; thickness of copper $\geq 40 \mu\text{m}$, see Fig.7.
For more information please refer to the "General Part of associated Handbook".

RATINGS AND CHARACTERISTIC CURVES

BYG50D THRU BYG50M

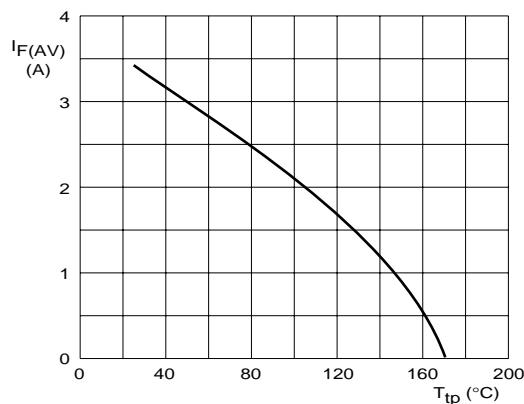


Fig.1 Maximum permissible average forward current as a function of tie-point temperature

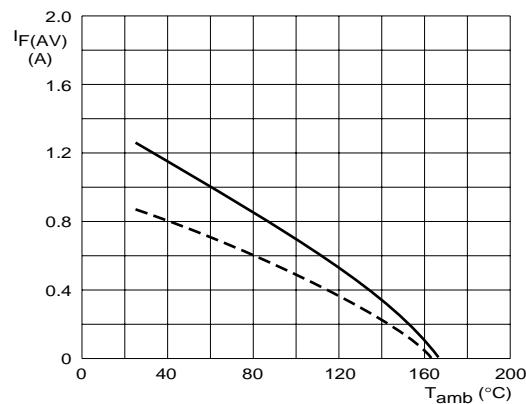


Fig.2 Maximum permissible average forward current as a function of ambient temperature

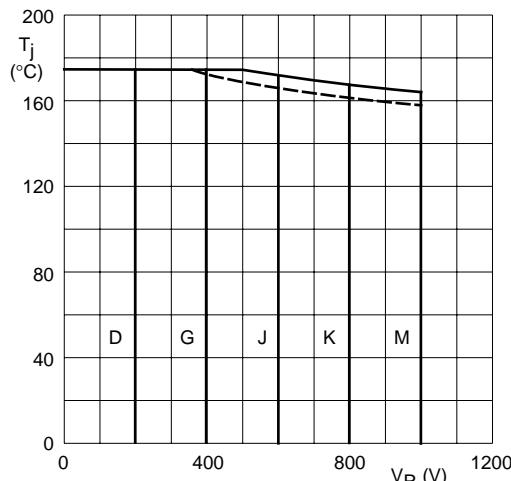


Fig.3 Maximum permissible junction temperature as a function of reverse voltage.

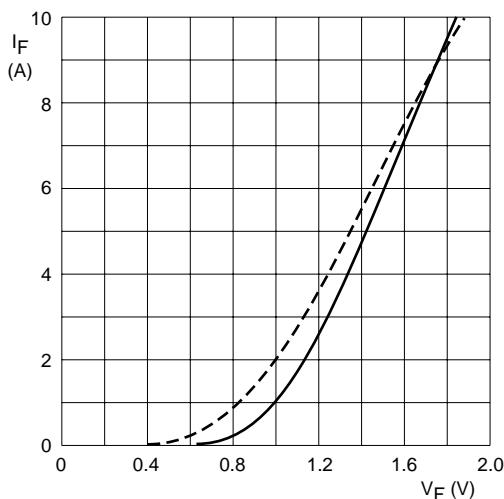


Fig.4 Forward current as a function of forward voltage; maximum values.

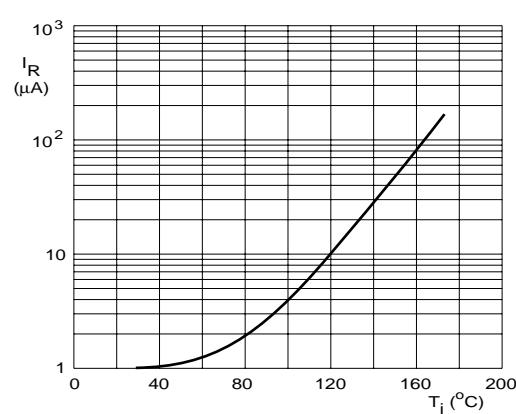


Fig.5 Reverse current as a function of junction temperature; maximum values.