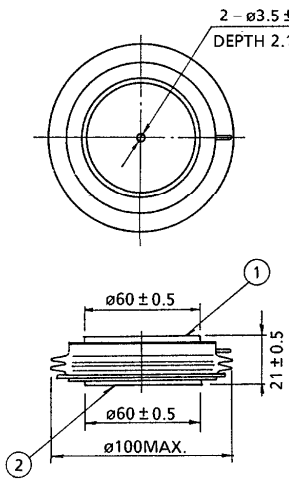
TOSHIBA FAST RECOVERY RECTIFIER SILICON DIFFUSED TYPE

1000GXHH23

HIGH SPEED RECTIFIER APPLICATIONS.

- Repetitive Peak Reverse Voltage : V_{RRM} = 4500V
- Average Forward Current : $I_{F(AV)}$ = 1000A
- Double Side Cooling

Unit in mm



1. CATHODE
2. ANODE

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Reverse Voltage	V_{RRM}	4500	V
Non-Repetitive Peak Reverse Voltage (Non-Repetitive ≦ 5ms, T_j ≦ 0~125°C)	V_{RSM}	4700	V
Average Forward Current	$I_{F(AV)}$	1000	A
Peak One Cycle Surge Forward Current (Non-Repetitive, 10ms-Half sine waveform)	I_{FSM}	19000	A
Junction Temperature Range	T_j	−40~125	°C
Storage Temperature Range	T_{stg}	−40~125	°C
Mounting Force	—	29.4±9.8	kN

JEDEC	—
EIAJ	—
TOSHIBA	3-98A1A

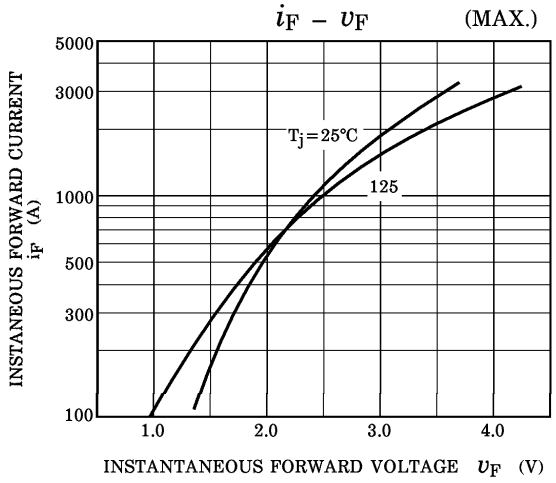
Weight : 800 g

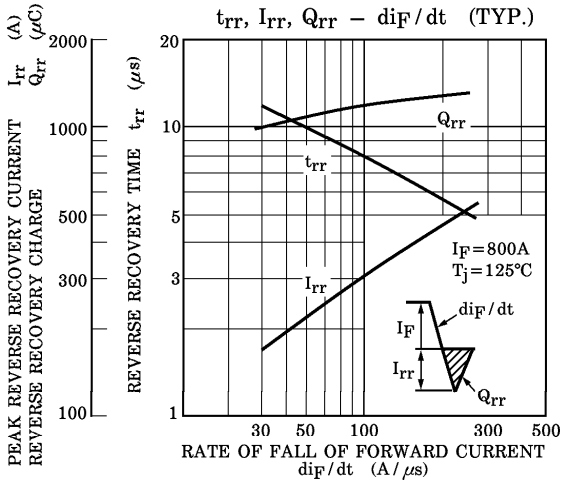
ELECTRICAL CHARACTERISTICS

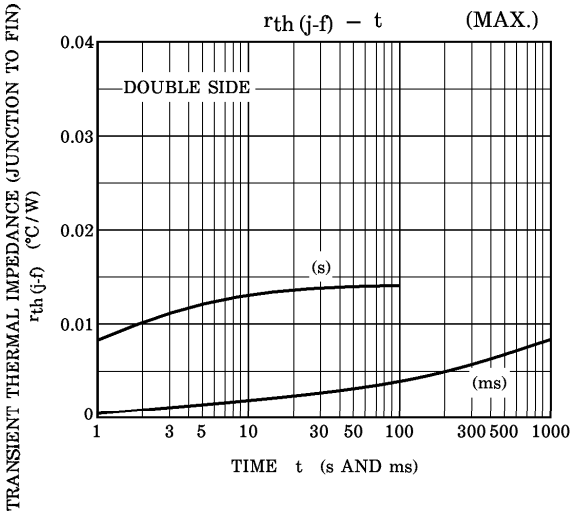
CHARACTERISTIC	SYMBOL	TEST CONDITION	TYP.	MAX.	UNIT
Repetitive Peak Reverse Current	I_{RRM}	V_{RRM} = 4500V, T_j = 125°C	—	60	mA
Peak Forward Voltage	V_{FM}	I_{FM} = 1500A, T_j = 125°C	—	2.9	V
Reverse Recovery Charge	Q_{rr}	I_F = 800A, T_j = 125°C di_F/dt = 100A/μs	—	1400	μC
Thermal Resistance	$R_{th(j-f)}$	Juntion to Fin	—	0.014	°C/W

961001EAA2

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- The information contained herein is subject to change without notice.


i_F – v_F (MAX.)
INSTANEOUS FORWARD CURRENT i_F (A)
5000
3000
1000
500
300
100
T_j=25°C
125
1.0
2.0
3.0
4.0
INSTANTANEOUS FORWARD VOLTAGE v_F (V)


t_{rr}, I_{rr}, Q_{rr} – di_F/dt (TYP.)
PEAK REVERSE RECOVERY CURRENT I_{rr} (A)
REVERSE RECOVERY CHARGE Q_{rr} (μC)
2000
1000
500
300
100
REVERSE RECOVERY TIME t_{rr} (μs)
20
10
5
3
1
Q_{rr}
t_{rr}
I_{rr}
I_F=800A
T_j=125°C
di_F/dt
I_F
I_{rr}
Q_{rr}
30
50
100
300
500
RATE OF FALL OF FORWARD CURRENT
di_F/dt (A/μs)


r_{th} (j-f) – t (MAX.)
TRANSIENT THERMAL IMPEDANCE (JUNCTION TO FIN)
r_{th} (j-f) (°C/W)
0.04
0.03
0.02
0.01
0
DOUBLE SIDE
(s)
(ms)
1
3
5
10
30
50
100
300
500
1000
TIME t (s AND ms)