SIKA CO.,LIMITED

RS30xxH   Series   30A TRIACS

DESCRIPTION：

High current density due to double mesa technology, glass passivation,guaranteed maximum junction temperature 180° C.

RS30xxH series triacs are suitable for general purpose AC switching,They can be used as an ON/OFF function in applications such as static relays,washing machine,soymlik maker,flush tollet,hair drier,indution motor staing circuits...or for phase contol operation light dimmers,motor speed controllers.

RS3035H -RS3050H are 3 quadrants triacs, They are specially recommended for use on inductive loads.

RS30xxHxA series are full pack plastic e,they provide a 2500V RMS isolation voltage from all three terminals to external heat sink.

TO-220B
Non-Insulated

TO-220A
Insulated

T1 (1)

G (3)

T2 (2)

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	30	A
V_{DRM}/V_{RRM}	600 / 800	V
V_{TM}	1.5	V
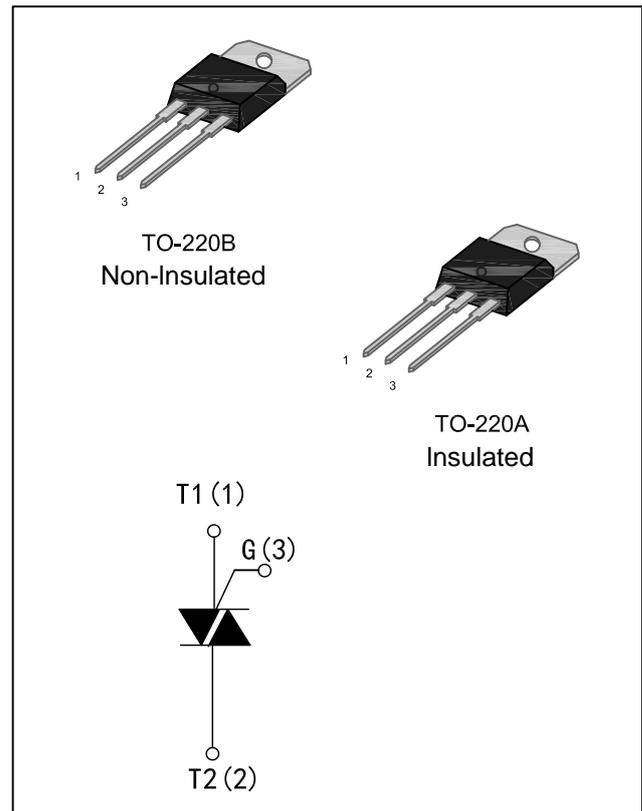
ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		Tstg	-40 to +180	℃
Operrating junction temperature range		Tj	-40 to +180	℃
Repetitive Peak Off-state Voltage (Tj=25℃) Repetitive Peak Reverse Voltage (Tj=25℃)	RS3035H-6	V_{DRM} V_{RRM}	600	V
	RS3035H-8		800	
Non repetitive Surge Peak Off-state Voltage (tp=10ms,Tj=25℃）		V_{DSM}	V_{DRM}+100	V
Non repetitive Peak Reverse Voltage (tp=10ms,Tj=25℃）		V_{RSM}	V_{RRM}+100	
RMS on-state current (full sine wave)	TO-220A Tc=95℃	$I_{T(RMS)}$	30	A
	TO-220B Tc=110℃			
Non repetitive surge peak on-state current (full cycle,Tj=25℃)	f=60Hz,t=16.7ms	I_{TSM}	260	A
	f=50Hz,t=20ms		250	
I²t Value for fusing	tp=10ms	I²t	340	A²s
Critical rate of rise of on-state current (IG=2×IGT,tr≤100ns,f=120Hz,Tj=150℃）		dI /dt	50	A/μs
Peak gate current (tp=20us,Tj=150℃)		I_{GM}	4	A
Peak Gate Power Dissipation (tp=20us,Tj=150℃)		P_{GM}	10	W
Average gate power dissipation (Tj=150℃)		$P_{G(AV)}$	1	W

ELECTRICAL CHARACTERISTICS(Tj=25℃ unless otherwise specified)

Symbol	Test Condition		Quadrant		Limits		Unit
					RS3035	RS3050	
I_{GT}	V_D=12V R_L=33Ω		I-II-III	MAX.	35	50	mA
V_{GT}			I-II-III	MAX.	1.3		V
V_{GD}	V_D=V_{DRM} R_L=3.3KΩ Tj =125℃		I-II-III	MIN.	0.2		V
I_L	I_G=1.2I_{GT}		I-III	MAX.	55	70	mA
			II	MAX.	80	100	mA
I_H	I_T =100mA			MAX.	40	55	mA
dV/dt	V_D=67%V_{DRM} gate open Tj=125℃			MIN.	500	1000	V/μs
(dI/dt)c	Without snubber Tj=125℃			MIN.	13	22	A/ms

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM}=35A,tp=380μs	Tj=25℃	1.5	V
I_{DRM} I_{RRM}	V_D=V_{DRM} V_R=V_{RRM}	Tj=25℃	10	μA
		Tj=150℃	5	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	Junction to Case(AC)	TO-220A	1.7	℃/W
		TO-220B	0.8	
$R_{th(j-a)}$	Junction to ambient (S=1cm²)		60	℃/W

ORDERING INFORMATION

RS 30 35 H - 8 A

SIKA CO.,LIMITED

TRIAC SERIES

$I_{T(RMS)}$: 30 A

IGT CLASS

High junction temperature

6:V_{DRM}/V_{RRM}≥ 600V
8:V_{DRM}/V_{RRM}≥ 800V

A:TO-220A
B:TO-220B
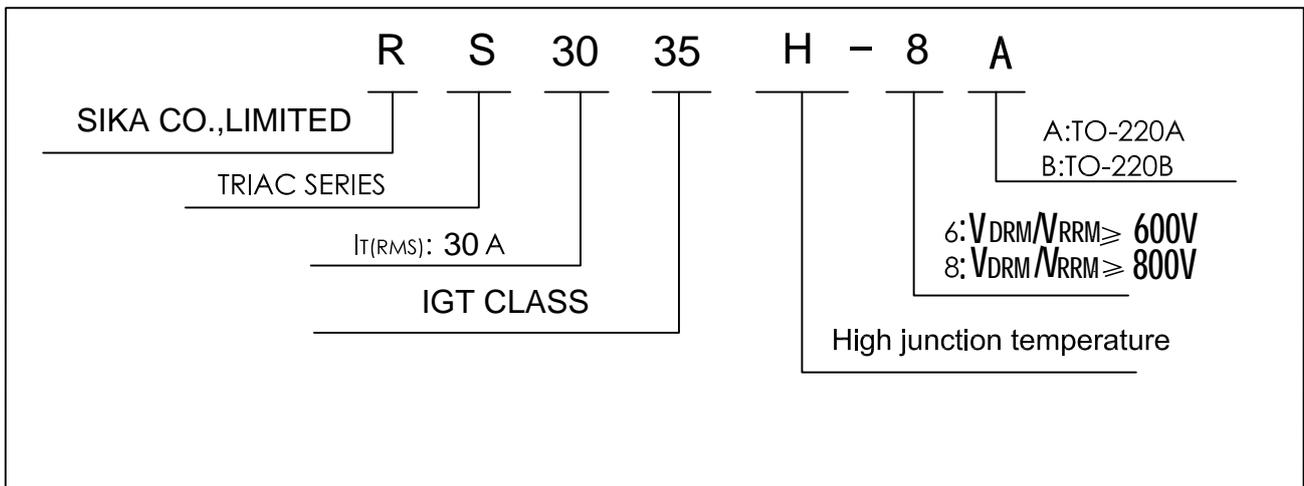
PACKAGE MECHANICAL DATA
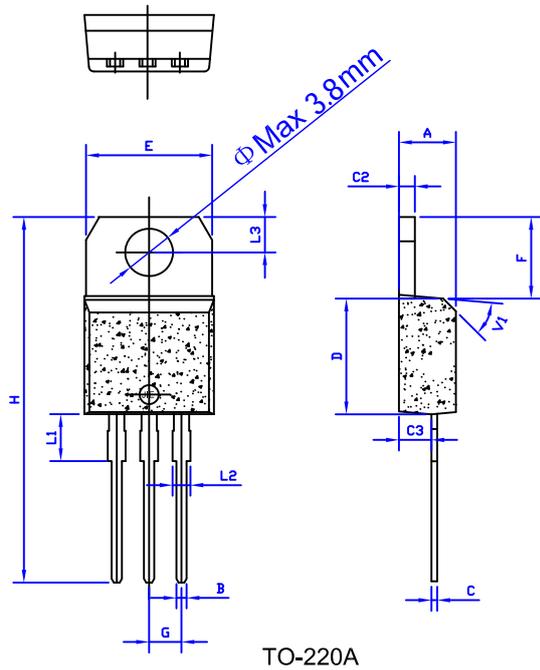
TO-220A

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.4		4.6	0.173		1.181
B	0.61		0.88	0.024		0.034
C	0.46		0.70	0.018		0.027
C2	1.21		1.40	0.048		0.051
C3	2.4		2.72	0.094		0.107
D	8.6		9.7	0.338		0.382
E	9.8		10.4	0.386		0.409
F	6.2		6.7	0.258		0.274
G		2.54			0.1	
H	28.0		29.8	11.0		11.7
L1		3.75			0.147	
L2	1.14		1.7	0.044		0.066
L3	2.65		2.95	0.104		0.116
V1		45°			40°	
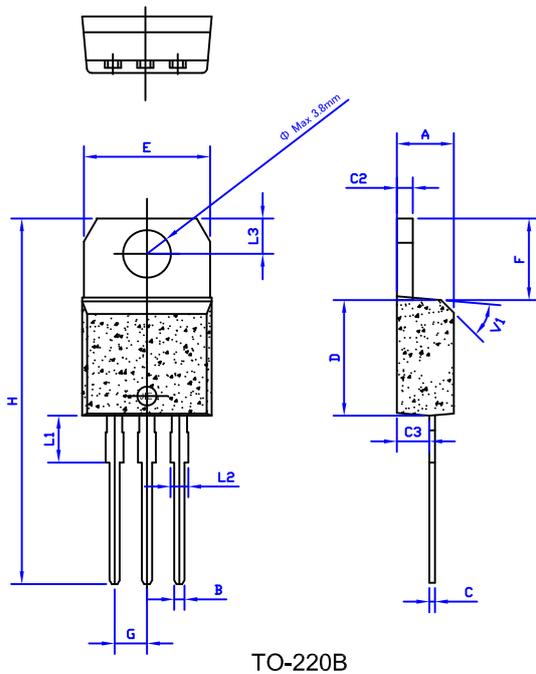
TO-220B

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.4		4.6	0.173		1.181
B	0.61		0.88	0.024		0.034
C	0.46		0.70	0.018		0.027
C2	1.21		1.40	0.048		0.051
C3	2.4		2.72	0.094		0.107
D	8.6		9.7	0.338		0.382
E	9.6		10.4	0.378		0.409
F	6.2		6.6	0.244		0.259
G		2.54			0.1	
H	28.0		29.8	11.0		11.7
L1		3.71			0.146	
L2	1.14		1.7	0.044		0.066
L3	2.65		2.95	0.104		0.116
V1		45°			40°	

FIG.1:Maximum power dissipation versus RMS
on-state current(full cycle)
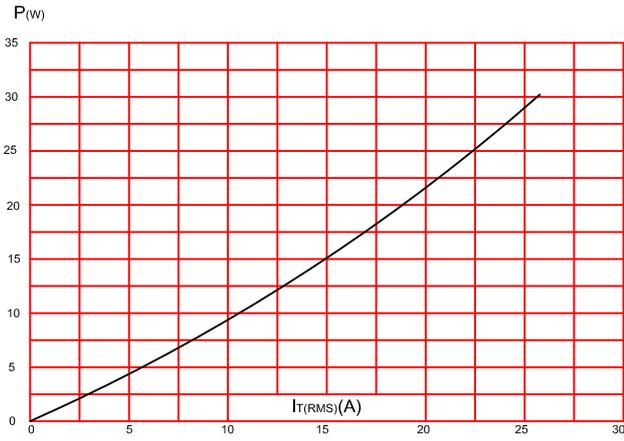
FIG.2:RMS on-state current versus case
temperature(full cycle)

P(W)

I_T(RMS)(A)
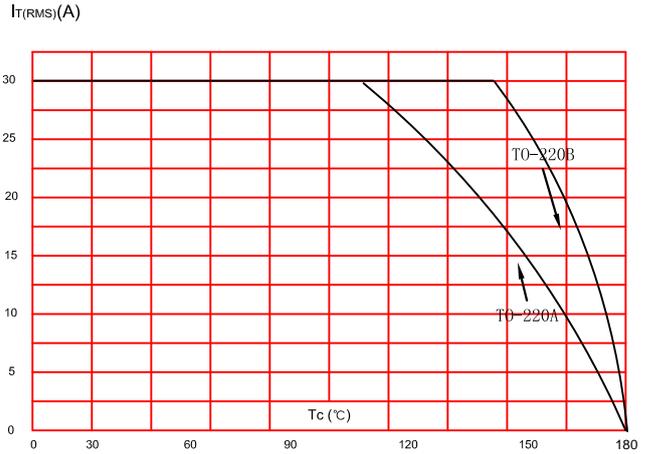
FIG.3:On-state characteristics (maximum
values).

I_TM(A)

Tjmax
Vto=0.85V
Rd=60mΩ

Tj=Tjmax

Tj=25℃

V_TM(V)
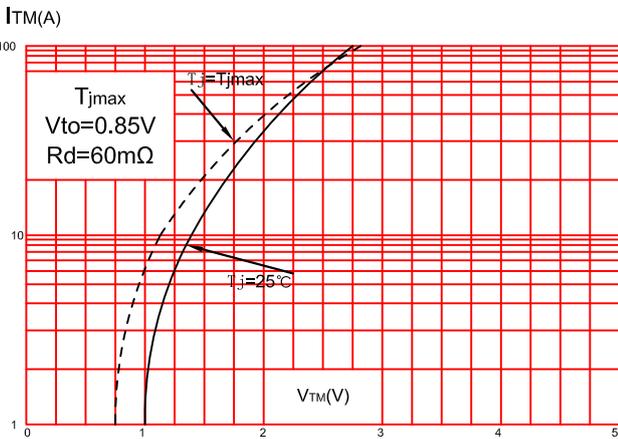
FIG.4:Surge peak on-state current versus
number of cycles.

I_TSM(A)

One cycle
t=20ms

Non repetitive
Tj intial=25 C

Repetitive
Tc=115℃

Number of cycles
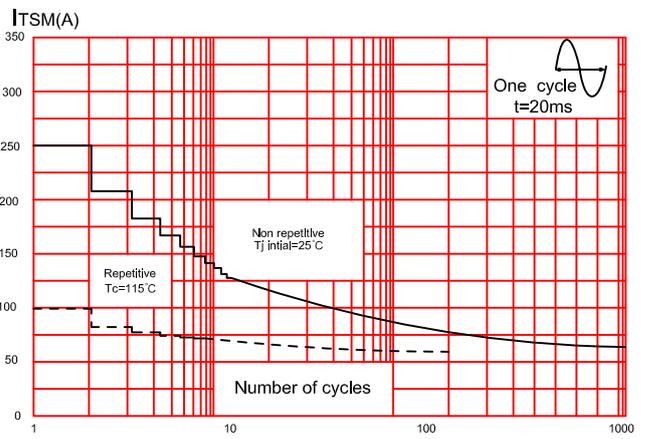
FIG.5:Non-repetitive surge peak on-state
current for a sinusoidal pulse with width
tp<10ms,and corresponding value of I²t.

I_TSM (A),I²t (A²s)

Tj Intial=25℃

ITSM

I²t

dI/dt≤50A/μs

tp(mS)
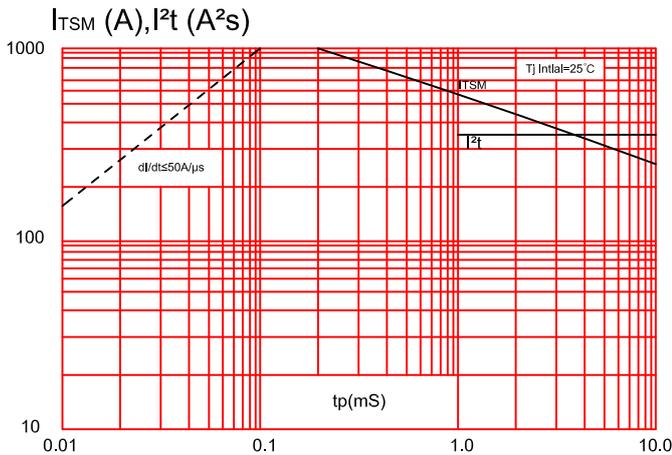
FIG.6:Relative variations of gate trigger
current,holding current and latching current
versus junction temperature(typical values)

IGT,IH,IL[Tj]/IGT,IH,IL[Tj=25℃]

IGT

IH&IL

Tj(℃)