

**RS16x06 Series 16A TRIACS**
**DESCRIPTION:**

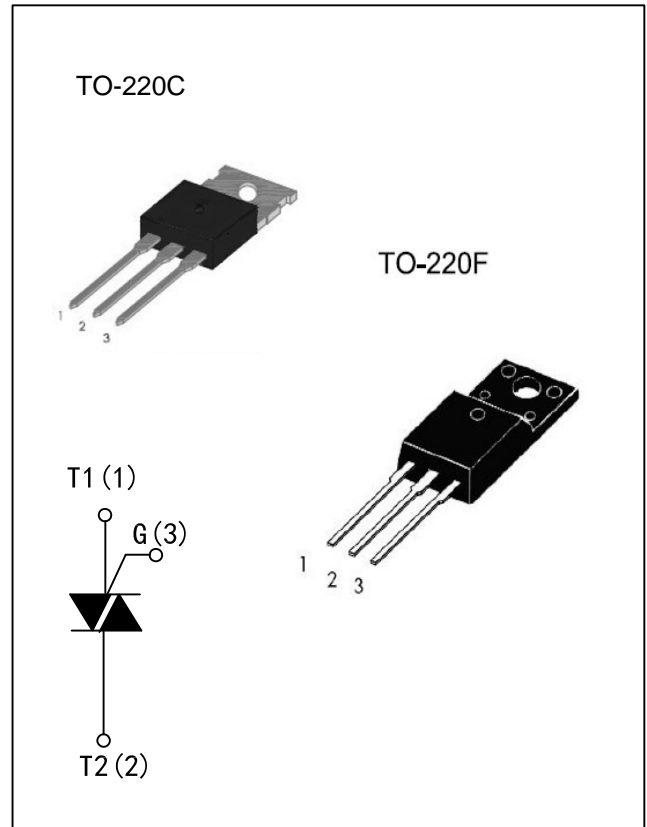
High current density due to double mesa technology, SIPOS and Glass Passivation.

RS16x06 -DW -EW -FW -GW series triacs is suitable for general purpose AC switching.

They can be used as an ON/OFF function in applications such as static relays,heating regulation, induction motor starting circuits...or for phase control operation, light dimmers,motor speed controllers.

**MAIN FEATURES**

Symbol	Value	Unit
$I_{T(RMS)}$	16	A
$V_{DRM}/V_{RRM}$	600 and 800	V
$V_{TM}$	1.6	V


**ABSOLUTE MAXIMUM RATINGS**

Parameter		Symbol	Value	Unit
Storage junction temperature range		Tstg	-40 to +150	°C
Operating junction temperature range		Tj	-40 to +125	°C
Repetitive Peak Off-state Voltage	Tj=25°C	VDRM	600 and 800	V
Repetitive Peak Reverse Voltage	Tj=25°C	VRRM	600 and 800	
Non repetitive Surge Peak Off-state Voltage	tp=10ms, Tj=25°C	VDSM	700 and 900	V
Non repetitive Peak Reverse Voltage		VRSM	700 and 900	
RMS on-state current (full sine wave)	Tc=99°C	IT(RMS)	16	A
Non repetitive surge peak on-state current (full cycle, Tj=25°C)	f = 60 Hz、t=16.7ms	ITSM	150	A
	f = 50 Hz、t=20ms		140	
I²t Value for fusing	tp=10ms	I²t	98	A²s
Critical rate of rise of on-state current IG=2×IGT, tr≤100 ns, f=120Hz, Tj=125°C	I-II-III	di /dt	50	A/μs
	IV		10	
Peak gate current	tp=20us, Tj=125°C	IGM	2	A
Peak gate power	tp=20us, Tj=125°C	PGM	5	W
Average gate power dissipation	Tj=125°C	PG(AV)	0.5	W

ELECTRICAL CHARACTERISTICS(Tj=25°C unless otherwise specified)

Symbol	Test Condition	Quadrant		RS16x06				Unit
				DW	EW	FW	GW	
IGT	VD=12V RL=33Ω	I-II-III	MAX.	5	10	25	50	mA
VGT		ALL	MAX.	1.3				V
VGD	VD=VDRM RL=3.3KΩ Tj =125°C	ALL	MIN.	0.2				V
IL	IG=1.2IGT	I-III	MAX.	15	30	40	60	mA
		II	MAX.	20	40	60	90	mA
IH	IT =100mA		MAX.	10	25	30	60	mA
dV/dt	VD=67%VDRM gate open Tj=125°C		MIN.	5	10	50	200	V/μs
(dV/dt)c	(dI/dt)c=7.2A/ms Tj=125°C		MIN.	1	2	5	10	V/μs

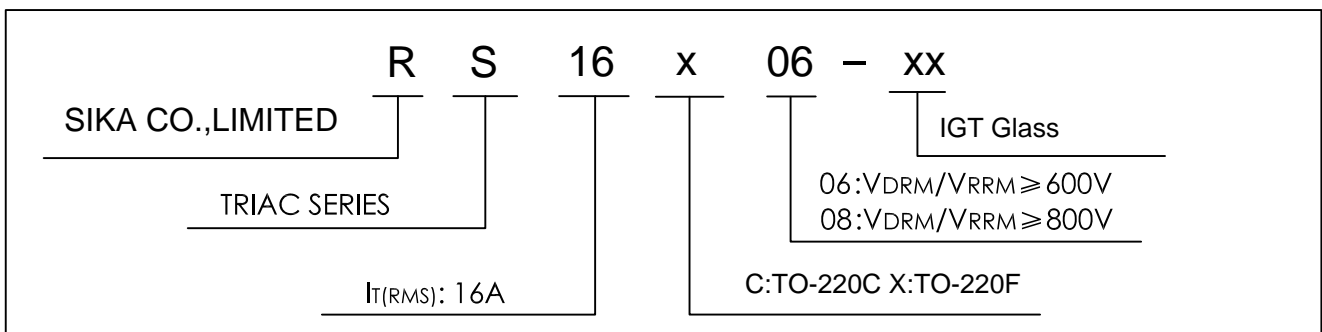
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
VTM	ITM=20A, tp=380μs	Tj=25°C	1.6	V
IDRM	VD=VDRM VR=VRRM	Tj=25°C	5	μA
Irrm		Tj=125°C	1	mA

THERMAL RESISTANCES

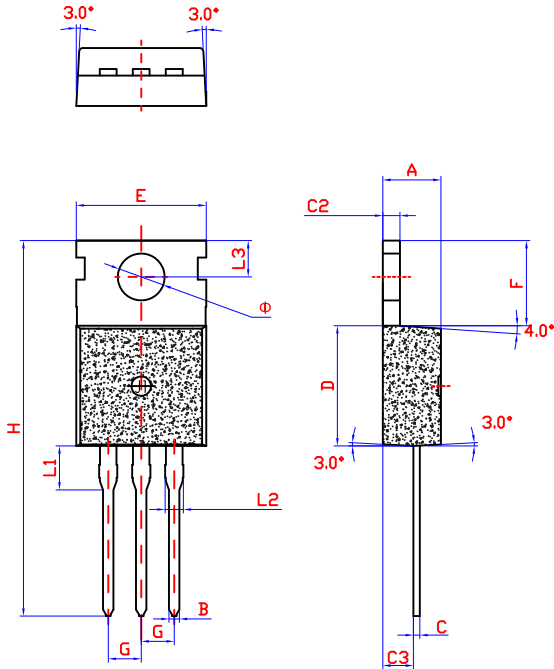
Symbol	Parameter	Value	Unit
Rth(j-c)	Junction to Case(AC)	1.2	°C/W

ORDERING INFORMATION



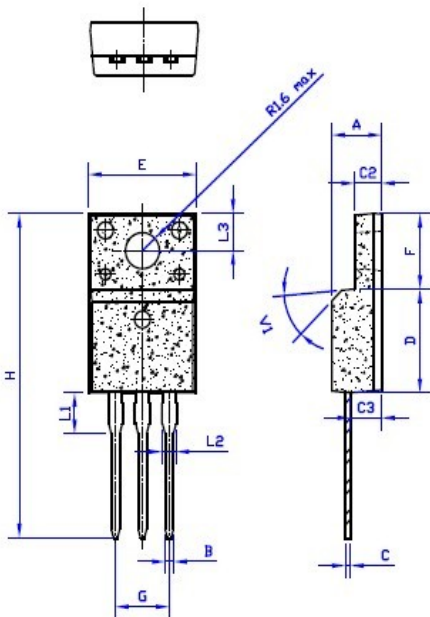
PACKAGE MECHANICAL DATA

TO-220C



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.4		4.6	0.173		1.181
B	0.7		0.9	0.027		0.035
C	0.45		0.6	0.018		0.024
C2	1.23		1.32	0.048		0.052
C3	2.2		2.6	0.086		0.102
D	8.9		9.9	0.350		0.390
E	9.9		10.3	0.390		0.406
F	6.3		6.9	0.248		0.272
G		2.54			0.1	
H	28.0		29.8	11.0		11.7
L1		3.2			0.126	
L2	1.14		1.7	0.045		0.067
L3	2.65		2.95	0.104		0.116
Φ		3.6			0.142	

TO-220F



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.4		4.8	0.173		0.189
B	0.74	0.8	0.83	0.029	0.031	0.033
C	0.5		0.75	0.020		0.030
C2	2.4		2.7	0.094		0.106
C3	2.6		3.0	0.102		0.118
D	8.8		9.3	0.346		0.367
E	9.7		10.3	0.382		0.406
F	6.4		6.8	0.252		0.268
G	5.0		5.2	0.197		0.205
H	28.0		29.8	11.0		11.7
L1		3.63			0.143	
L2	1.14		1.7	0.044		0.067
L3		3.3			0.130	
V1		40°			40°	

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

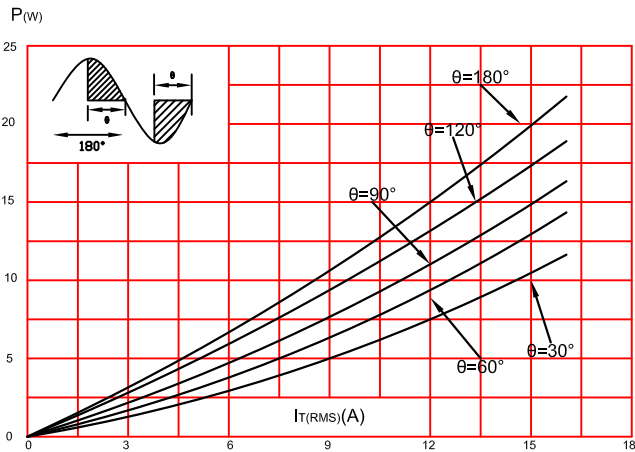


FIG.2: RMS on-state current versus case temperature (full cycle)

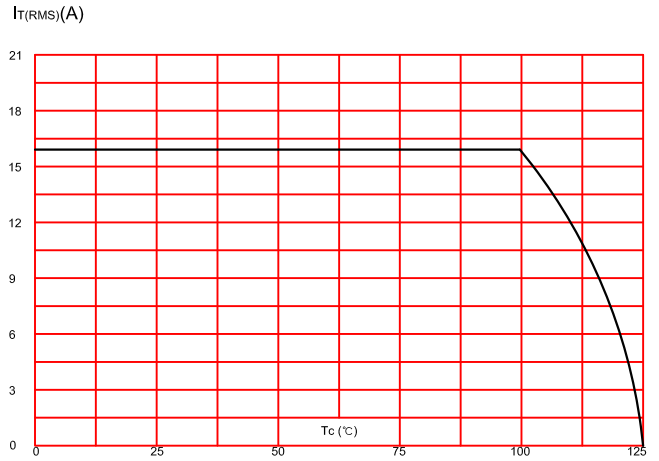


FIG.3: On-state characteristics (maximum values).

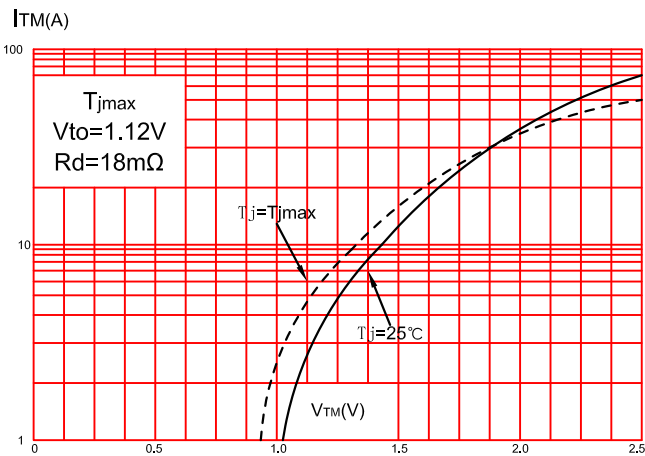


FIG.4: Surge peak on-state current versus number of cycles.

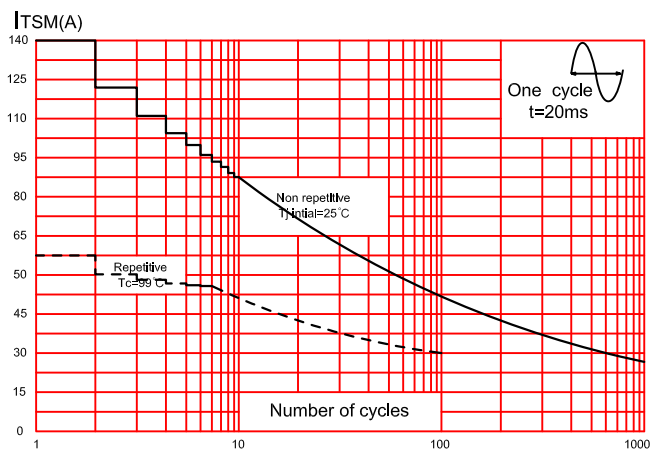


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10\text{ms}$ , and corresponding value of  $I^2t$ .

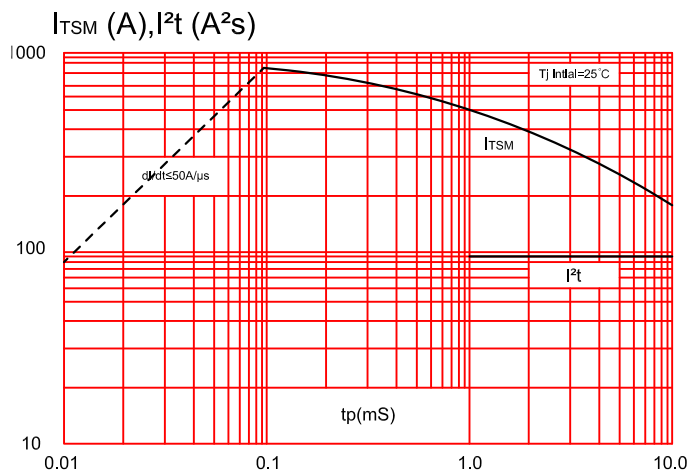


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)

