

# SanRex Fast Switching Thyristors

$I_{T(AV)}$ [A]		<b>16<sub>amp</sub></b> ( $T_c=77^\circ\text{C}$ ) Fast Switching SCR $t_q \leq 10\mu\text{s}$	<b>20<sub>amp</sub></b> ( $T_c=75^\circ\text{C}$ ) Fast Switching SCR $t_q \leq 10\mu\text{s}$	<b>30<sub>amp</sub></b> ( $T_c=65^\circ\text{C}$ ) Fast Switching SCR $t_q \leq 10\mu\text{s}$	<b>70<sub>amp</sub></b> ( $T_c=74^\circ\text{C}$ ) Fast Switching SCR $t_q \leq 30\mu\text{s}$	<b>150<sub>amp</sub></b> ( $T_c=79^\circ\text{C}$ ) Fast Switching SCR $t_q \leq 10\mu\text{s}$	<b>30<sub>amp</sub></b> ( $T_c=85^\circ\text{C}$ ) High Freq Switching SCR $t_q \leq 7.5\mu\text{s}$	<b>20<sub>amp</sub></b> ( $T_c=90^\circ\text{C}$ ) Reverse Conductive Thyristor
$V_{RRM}^*$ $V_{DRM}$ ( $V_{RSM}$ )** [V]	100 (120)	SC16C10J	SC20C10J	SC30C10J	SC70C10L	SC150C10J		
	200 (240)	SC16C20J	SC20C20J	SC30C20J	SC70C20L	SC150C20J		
	300 (360)	SC16C30J	SC20C30J	SC30C30J	SC70C30L	SC150C30J		
	400 (480)	SC16C40J	SC20C40J	SC30C40J	SC70C40L	SC150C40J	SC20C40H	SN20C40
	500 (600)	SC16C50J	SC20C50J	SC30C50J	SC70C50L	SC150C50J	SC20C50H	SN20C50
	600 (720)	SC16C60J	SC20C60J	SC30C60J	SC70C60L		SC20C60H	SN20C60
	700						SC20C70H	SN20C70
	800							SN20C80
	900							SN20C90
$I_{T(RMS)}$ [A]	25	30	47	110	230	47	30 ( $V_{R(RMS)}=10$ )	
$I_{TSM}$ (50/60Hz) [A]	220/250	300/340	450/500	1,350/1,500	4,000/4,400	450/500	260/300	
$I^2t$ [ $A^2 \cdot \text{sec}$ ]	260	480	1,040	9,370	80,600	1,040	370	
$di/dt$ [ $A/\mu\text{s}$ ]	50	50	50	50	200	200	28 ( $f \leq 28\text{kHz}$ )	
$I_{DRM}, I_{RRM}$ [mA]	6	10	10	10	15	10	5	
$V_{TM}$ [V]	2.5	2.5	2.5	1.8	1.8	2.5	2.2	
$I_{GT}$ [mA]	50	70	70	70	100	150	120	
$V_{GT}$ [V]	3	3	3	3	3	1.55	1.1	
$V_{GD}$ [V]	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
$t_q$ [ $\mu\text{s}$ ]	10	10	10	30	10	7.5	12	
$dv/dt$ [ $V/\mu\text{s}$ ]	100	100	100	100	200	1,100	1,000	
$T_j$ [ $^\circ\text{C}$ ]	-30~+125	-30~+125	-30~+125	-30~+125	-30~+125	-30~+125	-30~+125	
$R_{th}$ [ $^\circ\text{C}/\text{W}$ ]	1.2	1.0	0.8	0.4	0.17	0.55	0.58	
Package Outline	S2	S3	S3	S5	S9	S2	S2.1	

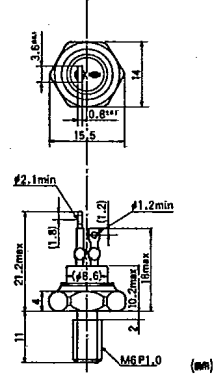
\*Not Applicable for SN20C

\*\*Not Applicable for SC20C-H or SN20C

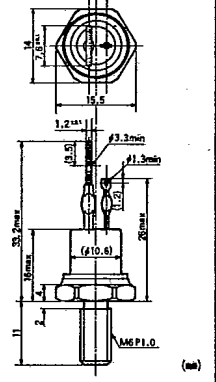
$I_{T(AV)}$  Average On-State Current  
 $V_{RRM}$  Repetitive Peak Reverse Voltage  
 $V_{DRM}$  Repetitive Peak Off-State Voltage  
 $V_{RSM}$  Non-Repetitive Peak Reverse Voltage  
 $I_{T(RMS)}$  RMS On-State Current  
 $I_{TSM}$  Surge On-State Current  
 $I^2t$   $I^2t$  for fusing (2~10msec)  
 $di/dt$  Critical Rate of Rise of On-State Current  
( $I_G \doteq \frac{1}{2} I_{GT}, T_j=25^\circ\text{C}, V_D = \frac{1}{2} V_{DRM}, di/dt=1A/\mu\text{s}$ )  
 $I_{DRM}$  Repetitive Peak Off-State Current, max.  
(at  $V_{DRM}$ , Single phase half wave)  
 $I_{RRM}$  Repetitive Peak Reverse Current, max.  
(at  $V_{RRM}$ , Single phase half wave)

$V_{TM}$  Peak On-State Voltage, max. ( $I_T \doteq 1.4 I_{T(RMS)}, T_j=25^\circ\text{C}$ )  
 $I_{GT}$  Gate Trigger Current, max. ( $T_j=25^\circ\text{C}, I_T=1A, V_D=6V$ )  
 $V_{GT}$  Gate Trigger Voltage, max. ( $T_j=25^\circ\text{C}, I_T=1A, V_D=6V$ )  
 $V_{GD}$  Non-Trigger Gate Voltage, min. ( $T_j=125^\circ\text{C}, V_D = \frac{1}{2} V_{DRM}$ )  
 $t_q$  Turn Off Time, max. ( $T_j=125^\circ\text{C}, I_T=I_{T(AV)}, V_R=50V, V_D = \frac{1}{2} V_{DRM}, dv/dt=20V/\mu\text{s}$ )  
 $dv/dt$  Critical Rate of Rise of Off-State Voltage, min.  
( $T_j=125^\circ\text{C}, V_D = \frac{2}{3} V_{DRM}$ , Exponential wave)  
 $T_j$  Operating Junction Temperature Range  
 $R_{th}$  Thermal Impedance, max.

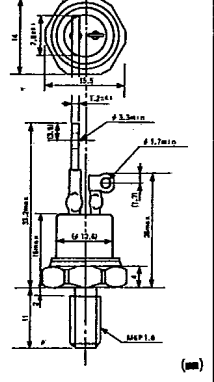
**S1** SSG16C  
SC10C



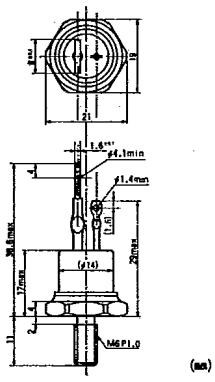
**S2** SSG25C·SC20C-H  
SC16C·SC16C-J



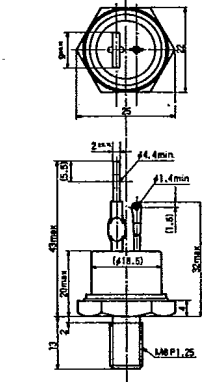
**S2.1** SN20C



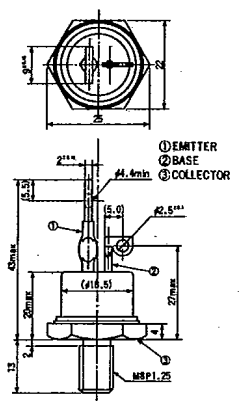
**S3** SSG35C  
SSG45C  
SC20C



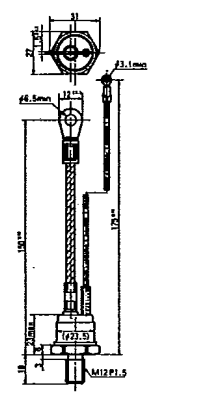
**S4** SSG50C  
SC40C



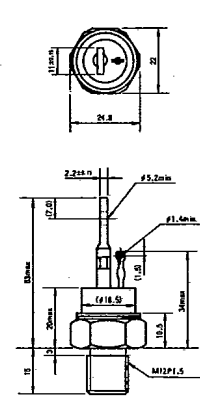
**S4.1** SQ50FE



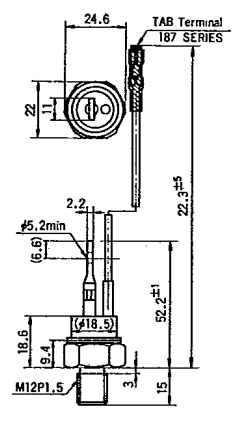
**S5** SSG70C SC70C  
SSG100C SC70C-L



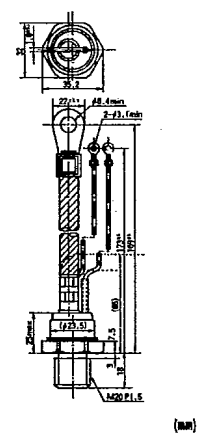
**S6** SSG70D



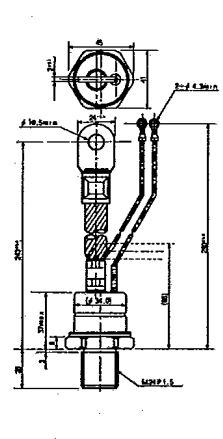
**S6.1** AS60C  
AS80C



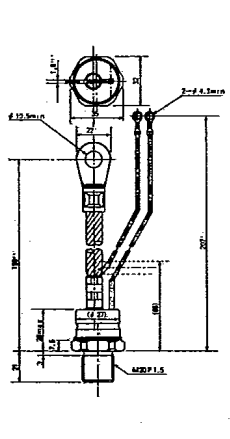
**S7** SSG150C  
SC100C



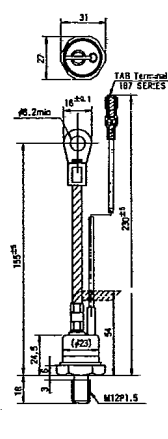
**S8** SSG300C  
SC300C



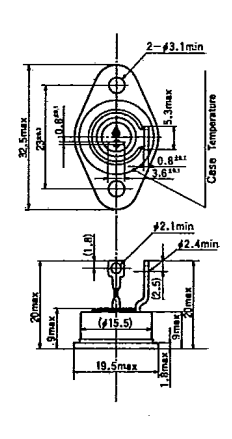
**S9** SC150C  
SC150-J  
AS250C



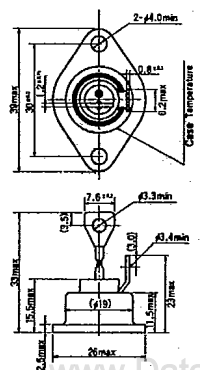
**S11** AS100C  
AS120C



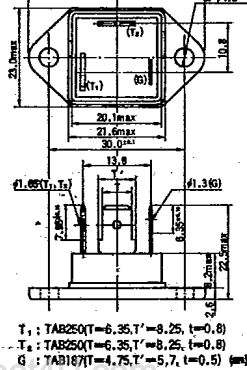
**Y1** SSG16C-Y



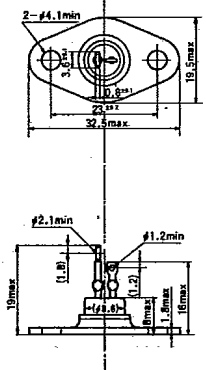
**Y2** SSG25C-Y  
SSG35C-Y



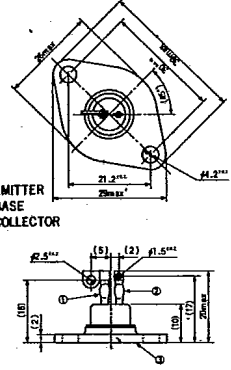
**T1** TG16C·TG25C



**D1** SSG16C-D  
SC10C-D



**D2** SQ25FE



**M1** PKseries

