

SEP 27 1988

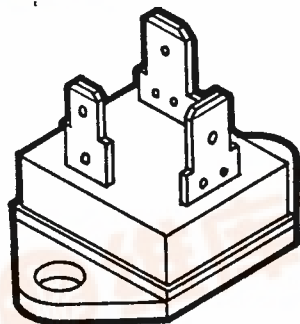
SAMS

T-25-15
T-25-17

SanRex®

POWER SEMICONDUCTORS

NEW



ISOLATED TRIAC MOLD TYPE TG SERIES

- TO-3 Isolated Mounting. 2.5kV RMS Isolation
- Voltage Range Up to 600V
- High Commutating dv/dt

TG-F SERIES

- Super High Surge Current Capability
- Economical Low On-State Voltage

Parts Number Assignment

TG 25 F 40

Type Code

C	Standard Type Gate Terminal Thickness 0.5mm (0.020in)
E	Standard Type Gate Terminal Thickness 0.8mm (0.031in)
F	High Quality Type Gate Terminal Thickness 0.8mm (0.031in)

RMS ON-STATE CURRENT

TG Series

Voltage Code	V _{DRM} [V]
20	200
30	300
40	400
50	500
60	600



SanRex® POWER SEMICONDUCTORS

T-25-17

■ MAXIMUM RATINGS

Specifications	Unit	TG16C TG16E	TG25C TG25E
V_{DRM} Repetitive Peak Voltage Range	V	200~600	200~600
$I_{T(RMS)}$ RMS On-State Current	A	16 $T_c=83^\circ\text{C}$	25 $T_c=74^\circ\text{C}$
I_{TSM} Surge On-State Current	A	140/160	220/250
I^2t I^2t for Fusing	A^2S	106	260
P_{GM} Peak Gate Power Dissipation	W	10	10
$P_{G(AV)}$ Average Gate Dissipation	W	1	1
I_{GM} Peak Gate Current	A	3	3
V_{GM} Peak Gate Voltage	V	10	10
di/dt Critical Rate of Current Rise	$\text{A}/\mu\text{S}$	50	50
T_j Operating Junction Temperature	$^\circ\text{C}$	$-40 +125$	$-40 +125$
T_{sig} Storage Temperature	$^\circ\text{C}$	$-40 +125$	$-40 +125$
V_{ISO} Isolation Voltage (RMS)	V	2,500	2,500
R_{ISO} Isolation Resistance	$\text{M}\Omega$	1,000	1,000
Mounting Torque	$\text{kgf}\cdot\text{cm}$	12	12
Weight	g	27	27

■ ELECTRICAL CHARACTERISTICS

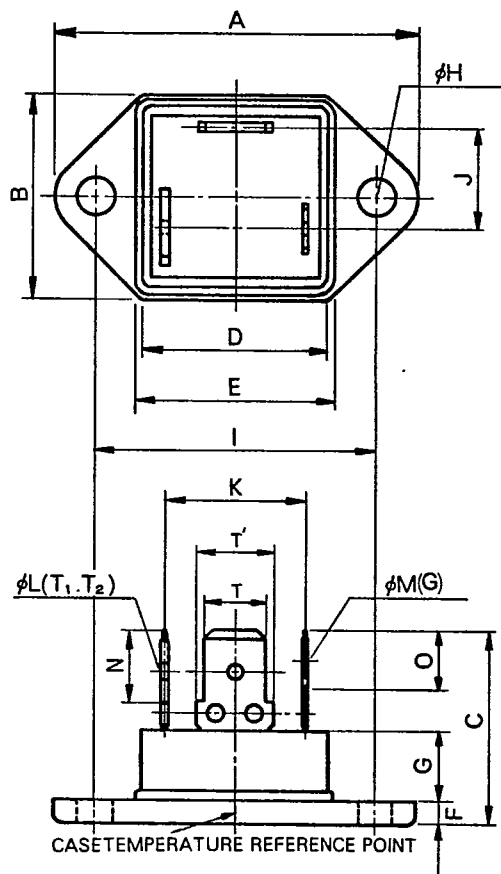
I_{DRM} Max. Leakage Current		mA	3	5
V_{TM} Max. On-State Voltage		V	1.5	1.4
I_{GT} Max. Required Gate Current	1: I_{GT1}^+	mA	50	50
	2: I_{GT1}^-	mA	50	50
	3: I_{GT3}^+	mA	—	—
	4: I_{GT3}^-	mA	50	50
V_{GT} Max. Required Gate Voltage	1: V_{GT1}^+	V	3	3
	2: V_{GT1}^-	V	3	3
	3: V_{GT3}^+	V	—	—
	4: V_{GT3}^-	V	3	3
V_{GD} Min. Non-Trigger Gate Voltage		V	0.2	0.2
t_{gt} Max. Turn On Time		μS	10	10
dv/dt Min. Critical Rate of Voltage Rise		$\text{V}/\mu\text{S}$	50	50
$[dv/dt]_c$ Min. Commutating dv/dt		$\text{V}/\mu\text{S}$	6	6
I_H Typ. Holding Current		mA	30	30
R_{th} Max. Thermal Resistance		$^\circ\text{C}/\text{W}$	2.0	1.6

SanRex® POWER SEMICONDUCTORS

T-25-17

TG25F	TG35C TG35E	TG35F	Conditions
400~600	200~600	400~600	
25 T _c =80°C	35 T _c =58°C	35 T _c =67°C	Full cycle current
270/300	300/330	310/340	Non-repetitive, One cycle 50/60Hz
360	450	485	t=2 to 10 msec.
10	10	10	
1	1	1	
3	3	3	
10	10	10	
50	50	50	T _j =25°C, I _G =100mA, V _D =1/2V _{DRM} , di _G /dt=1A/μS
-40 +125	-40 +125	-40 +125	
-40 +125	-40 +125	-40 +125	
2,500	2,500	2,500	AC, 1 minute
1,000	1,000	1,000	DC 1,000 V, 5 sec.
12	12	12	Recommended 10 kgf·cm (9 lb·in)
27	27	27	

3	5	3	T _j =125°C, at V _{DRM}
1.35	1.4	1.38	T _j =25°C, I _T =1.4 I _{T(RMS)}
50	50	50	T _j =25°C, I _T =1A, V _D =6V
50	50	50	
—	—	—	
50	50	50	T _j =25°C, I _T =1A, V _D =6V
2.5	3	2.5	
2.5	3	2.5	
—	—	—	
2.5	3	2.5	
0.2	0.2	0.2	T _j =125°C, V _D =1/2V _{DRM}
10	10	10	T _j =25°C, I _T Rated, I _G =100mA, V _D =1/2V _{DRM}
100	20	100	T _j =125°C, V _D =2/3V _{DRM} , Exponential wave
10	3	10	[di/dt] _C = $\frac{8(TG16)}{15(TG25,35)}$ A/mS, V _D =2/3V _{DRM}
30	30	30	T _j =25°C
1.5	1.5	1.5	Junction to case



T₁ : TAB250(T=6.35(0.250), T'=8.25(0.325), t=0.8(0.031))
 T₂ : TAB250(T=6.35(0.250), T'=8.25(0.325), t=0.8(0.031))
 G(Ctype) : TAB187(T=4.75(0.187), T'=5.7(0.224), t=0.5(0.020))
 G(E,Ftype) : TAB187(T=4.75(0.187), T'=5.7(0.224), t=0.8(0.031))
 mm(inch)

SYMBOL	INCHES		MILLIMETERS	
	MIN.	MAX.	MIN.	MAX.
A	—	1.543	—	39.20
B	—	0.906	—	23.00
C	—	0.886	—	22.50
D	—	0.791	—	20.10
E	—	0.850	—	21.60
F	0.091	0.114	2.30	2.90
G	—	0.323	—	8.20
φH	0.161	0.169	4.10	4.30

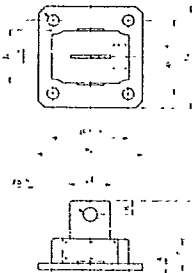
SYMBOL	INCHES		MILLIMETERS	
	MIN.	MAX.	MIN.	MAX.
I	1.177	1.185	29.90	30.10
J	0.415	0.427	10.55	10.85
K	0.545	0.557	13.85	14.15
φL	0.065	0.087	1.65	2.20
φM	0.051	0.062	1.30	1.57
N	0.307	0.319	7.80	8.10
O	0.244	0.256	6.20	6.50



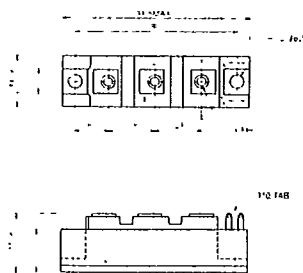
SanRex®**DIMENSIONS****DIMENSIONS**

(m/m)

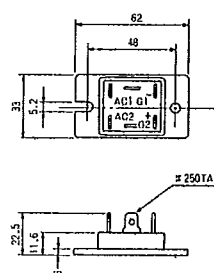
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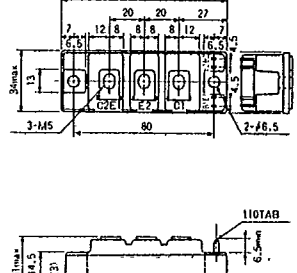
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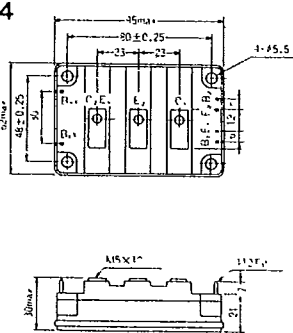
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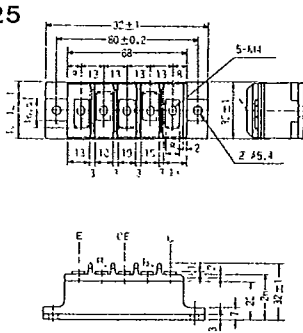
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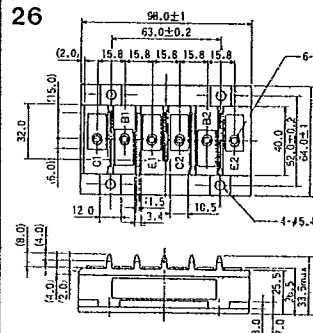
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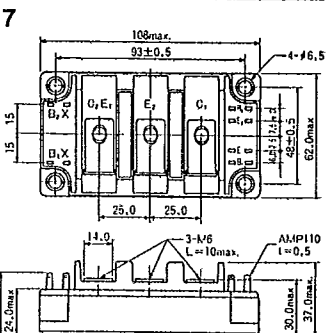
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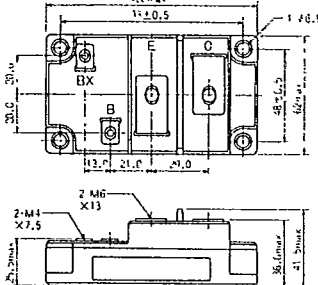
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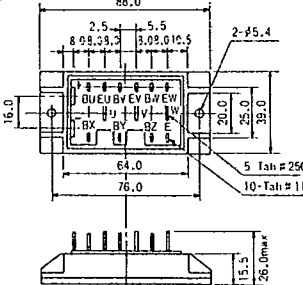
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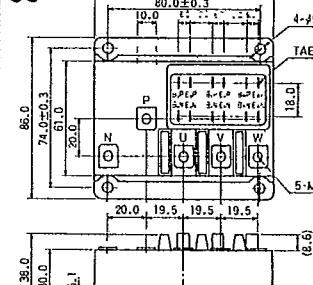
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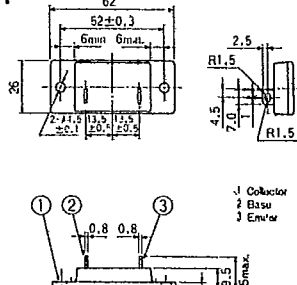
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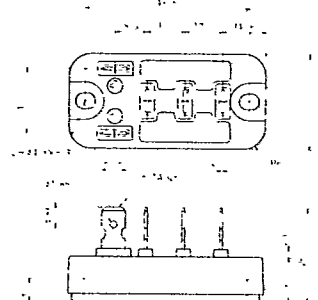
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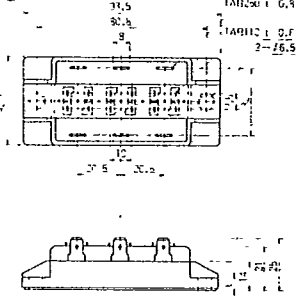
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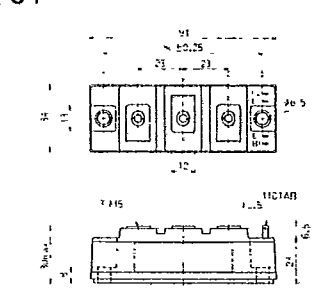
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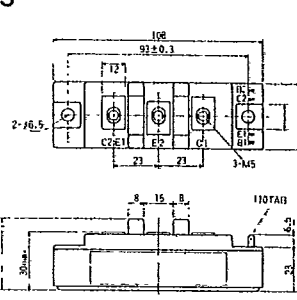
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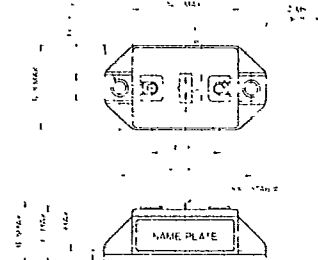
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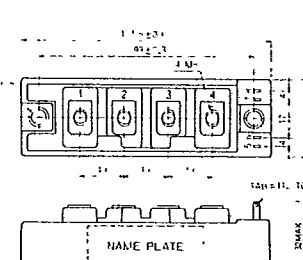
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