

# THYRISTOR MODULE

90A / 300V to 600V

P F T 9 0 3 N

P F T 9 0 6 N

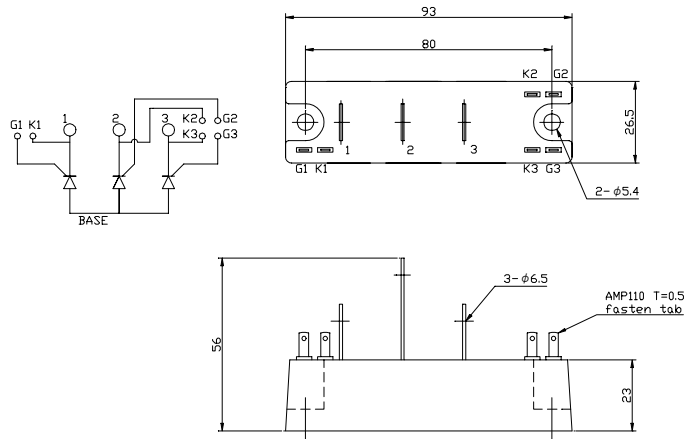
## FEATURES

- \* 3 Phase Anode Common Half Bridge Circuit
- \* High Surge Capability
- \* UL Recognized, File No. E187184

## TYPICAL APPLICATIONS

- \* Rectified For General Use

## OUTLINE DRAWING



## Maximum Ratings

Approx Net Weight:140g

Parameter	Symbol	Grade		Unit
		PFT903N	PFT906N	
Repetitive Peak Off-State Voltage	$V_{DRM}$	300	600	V
Non Repetitive Peak Off-State Voltage	$V_{DSM}$	400	700	
Repetitive Peak Reverse Voltage	$V_{RRM}$	300	600	V
Non Repetitive Peak Reverse Voltage	$V_{RSM}$	400	700	

Parameter		Conditions	Max Rated Value	Unit	
Average Rectified Output Current	$I_{O(AV)}$	50Hz Half Sine Wave condition $T_c=92^\circ\text{C}$	90	A	
RMS On-State Current	$I_{T(RMS)}$		140	A	
Surge On-State Current	$I_{TSM}$	50 Hz Half Sine Wave, 1Pulse, Non-Repetitive	1350	A	
I Squared t	$I^2t$	2msec to 10msec	9100	$\text{A}^2\text{s}$	
Peak Gate Power	$P_{GM}$		5	W	
Average Gate Power	$P_{G(AV)}$		1	W	
Peak Gate Current	$I_{GM}$		2	A	
Peak Gate Voltage	$V_{GM}$		10	V	
Peak Gate Reverse Voltage	$V_{RGM}$		5	V	
Operating Junction Temperature Range	$T_{jw}$		-40 to +150	$^\circ\text{C}$	
Storage Temperature Range	$T_{stg}$		-40 to +125	$^\circ\text{C}$	
Mounting torque	Case mounting	Ftor	Greased	M5 Screw	2.4 to 2.8
	Terminals		M6 Screw		

Value per 1 Arm

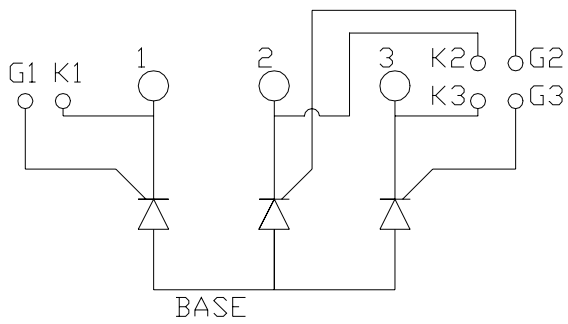
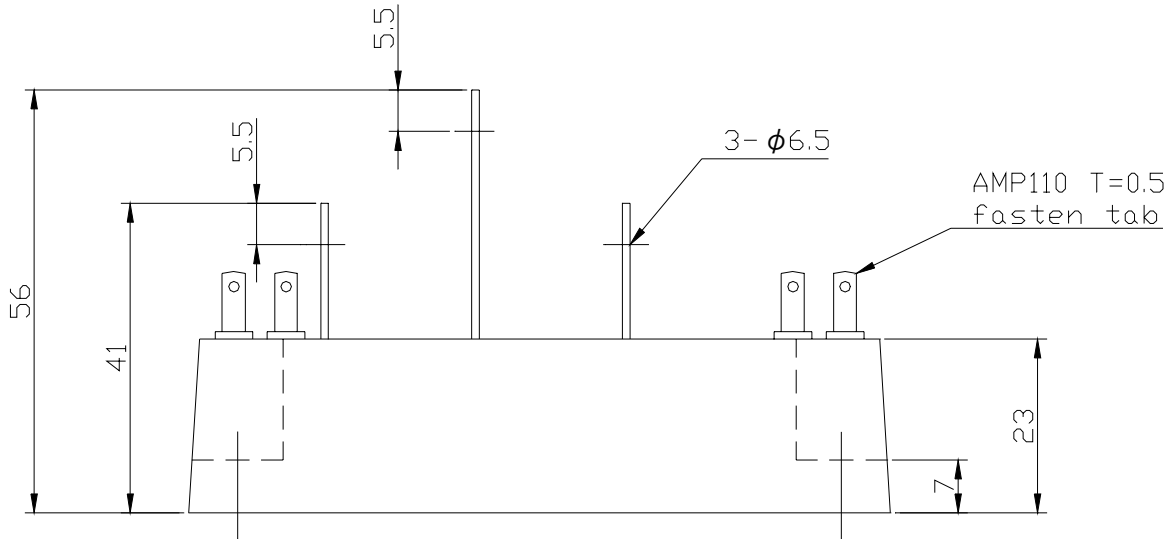
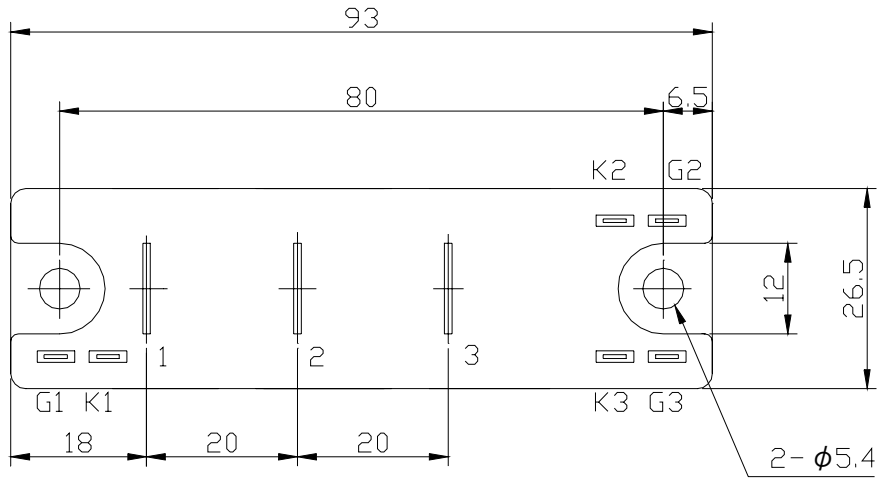
**Electrical • Thermal Characteristics**

Characteristics	Symbol	Test Conditions	Maximum Value.			Unit
			Min.	Typ.	Max.	
Peak Off-State Current	$I_{DM}$	$V_{DM} = V_{DRM}, T_j = 150^\circ\text{C}$			10	mA
Peak Reverse Current	$I_{RM}$	$V_{RM} = V_{RRM}, T_j = 150^\circ\text{C}$			10	mA
Peak Forward Voltage	$V_{TM}$	$I_{TM} = 270\text{A}, T_j = 25^\circ\text{C}$			1.58	V
Gate Current to Trigger	$I_{GT}$	$V_D = 6\text{V}, I_T = 1\text{A}$	$T_j = -40^\circ\text{C}$		200	mA
			$T_j = 25^\circ\text{C}$		100	
			$T_j = 125^\circ\text{C}$		50	
Gate Voltage to Trigger	$V_{GT}$	$V_D = 6\text{V}, I_T = 1\text{A}$	$T_j = -40^\circ\text{C}$		4	V
			$T_j = 25^\circ\text{C}$		2.5	
			$T_j = 125^\circ\text{C}$		1.5	
Gate Non-Trigger Voltage	$V_{GD}$	$V_D = 2/3 V_{DRM}, T_j = 125^\circ\text{C}$	0.2			V
Latching Current	$I_L$	$T_j = 25^\circ\text{C}$		70		mA
Holding Current	$I_H$	$T_j = 25^\circ\text{C}$		40		mA
Thermal Resistance *1	$R_{th(j-c)}$	Junction to Case			0.15	$^\circ\text{C}/\text{W}$

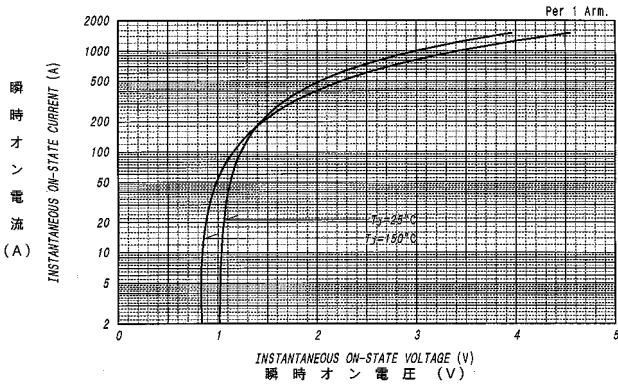
Value Per 1Arm

\*1:Value Per Module

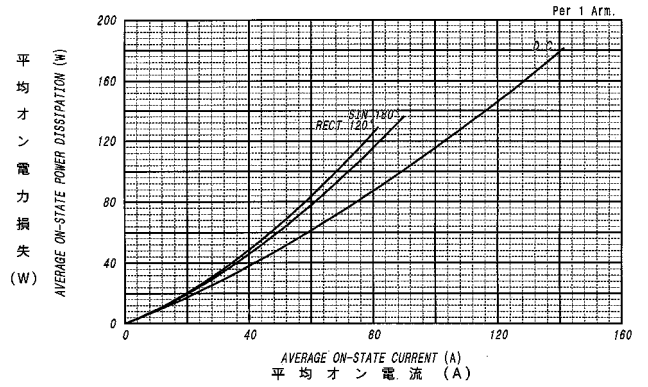
PFT90xN OUTLINE DRAWING (Dimensions in mm)



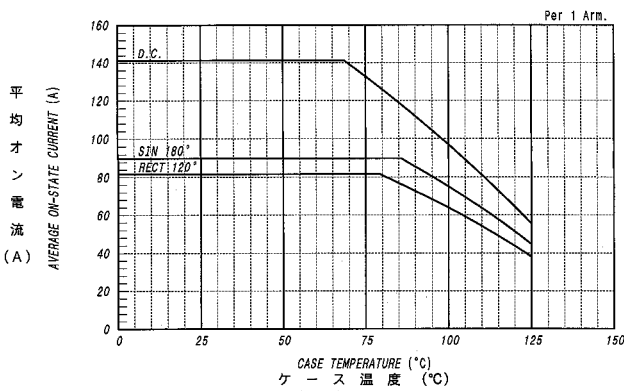
オン電圧特性  
ON-STATE CURRENT VS. VOLTAGE



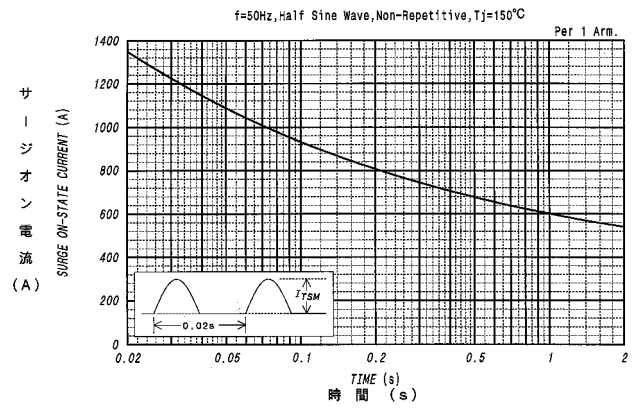
平均オン電力損失特性  
AVERAGE ON-STATE POWER DISSIPATION



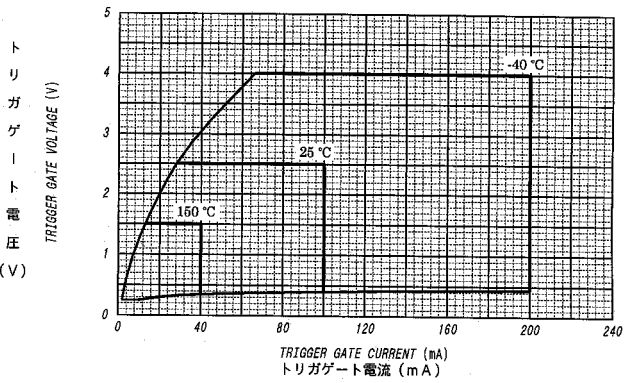
平均オン電流 - ケース温度定格  
AVERAGE ON-STATE CURRENT VS. CASE TEMPERATURE



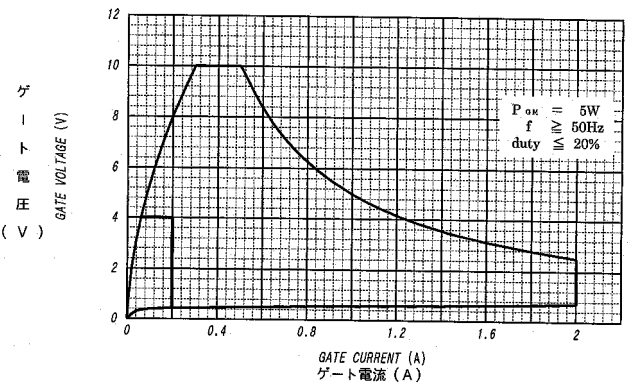
サージオン電流定格  
SURGE CURRENT RATINGS



ゲート特性  
GATE CHARACTERISTICS



ゲート定格  
GATE RATINGS



過渡熱抵抗特性  
MAXIMUM TRANSIENT THERMAL IMPEDANCE  
Junction to Case

