

THYRISTOR MODULE

90A / 300V to 600V

P F T 9 0 3 N

P F T 9 0 6 N

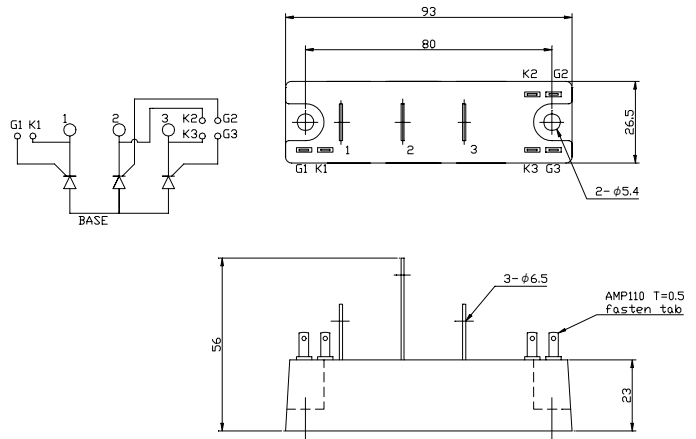
FEATURES

- * 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	A^2s	
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

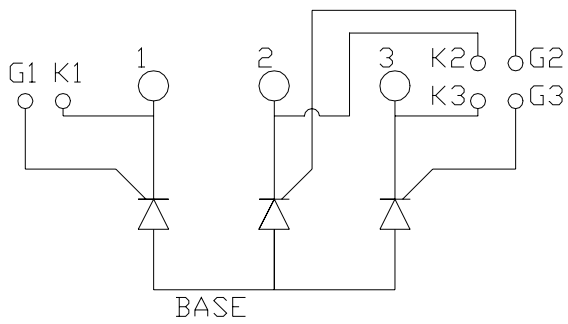
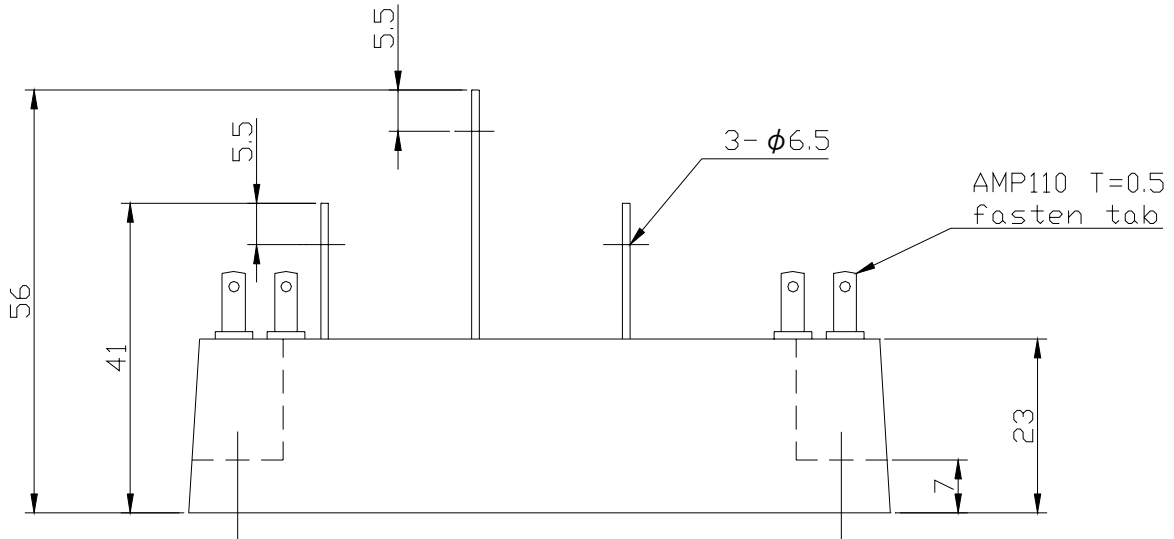
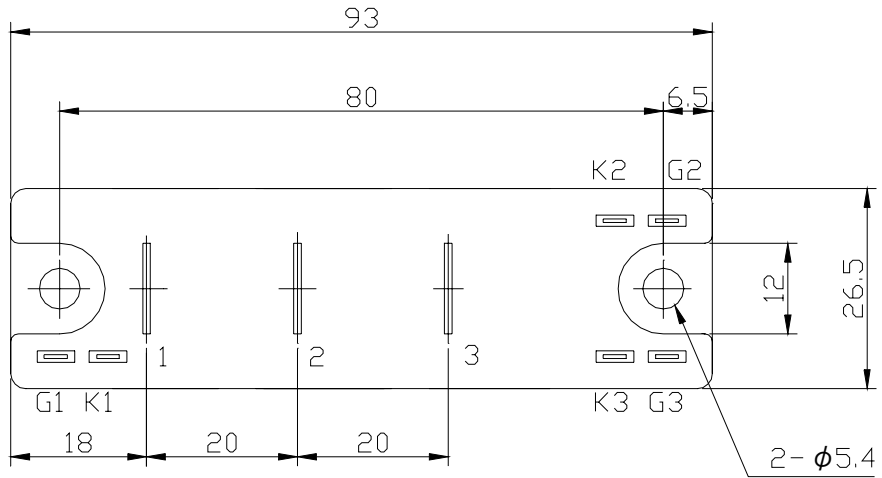
Electrical • Thermal Characteristics

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	$^\circ\text{C/W}$

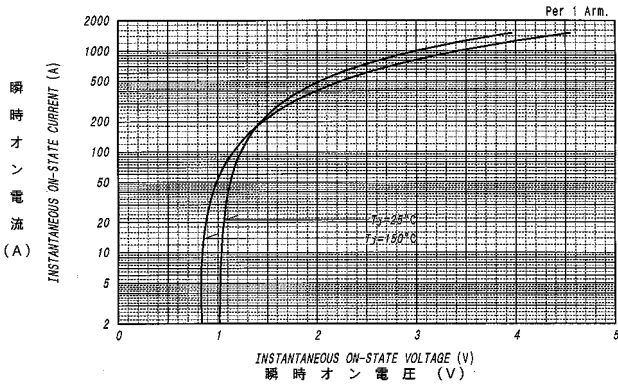
Value Per 1Arm

*1:Value Per Module

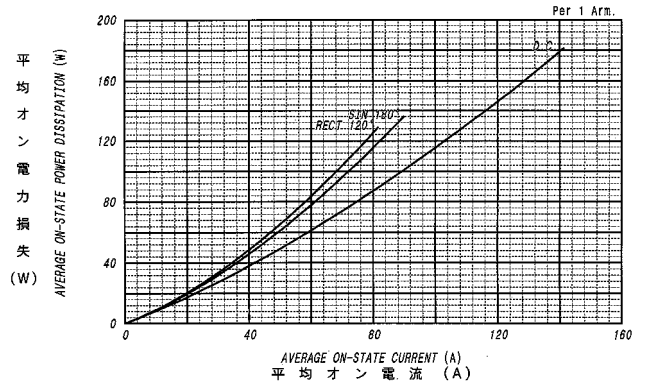
PFT90xN OUTLINE DRAWING (Dimensions in mm)



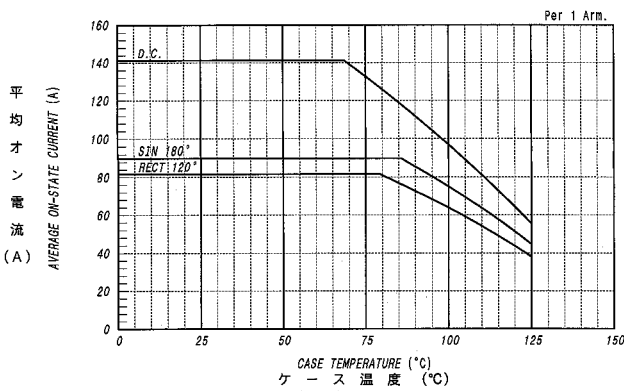
オン電圧特性
ON-STATE CURRENT VS. VOLTAGE



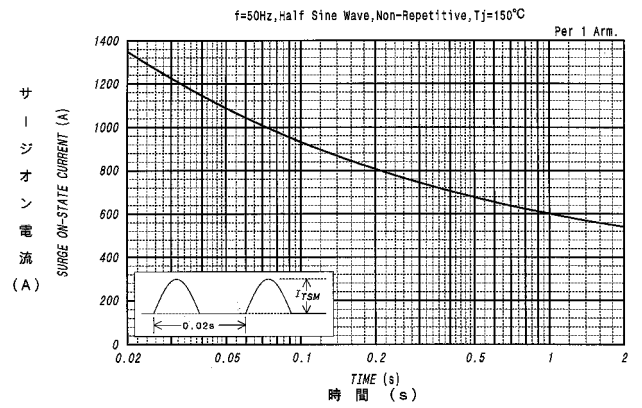
平均オン電力損失特性
AVERAGE ON-STATE POWER DISSIPATION



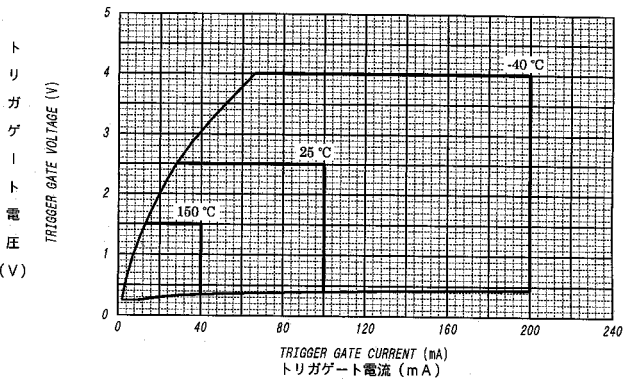
平均オン電流 - ケース温度定格
AVERAGE ON-STATE CURRENT VS. CASE TEMPERATURE



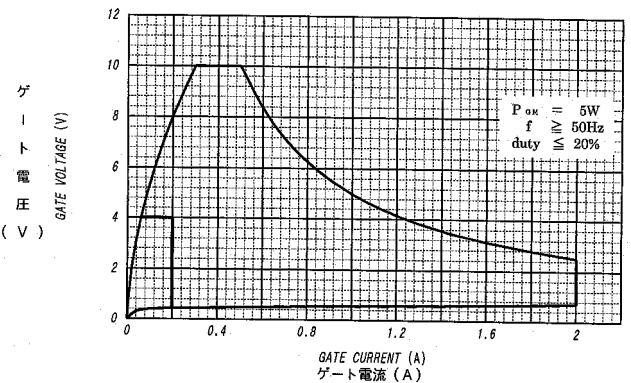
サージオン電流定格
SURGE CURRENT RATINGS



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

