

TRANSISTOR MODULE (THREE PHASES BRIDGE TYPE)

QF30AA40/60

TOP

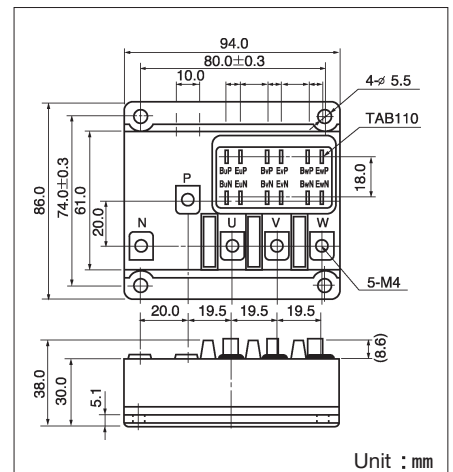
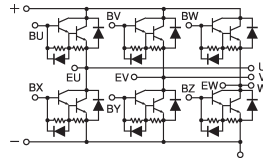


QF30AA is six pack Darlington power transistor module which has six transistors connected in three phase bridge configuration. Each transistor has a reverse paralleled fast recovery diode. The mounting base of the module is electrically isolated from semiconductor elements for simple heatsink construction.

- $I_C=30A$, $V_{CEX}=400/600V$
- Low saturation voltage for higher efficiency.
- High DC current gain h_{FE}
- Isolated mounting base
- $V_{EBO} 10V$ for faster switching speed.

(Applications)

Motor Control (VWF), AC Servo, UPS



Maximum Ratings

($T_j=25^\circ C$)

Symbol	Item	Conditions	Ratings		Unit
			QF30AA40	QF30AA60	
V_{CBO}	Collector-Base Voltage		400	600	V
V_{CEX}	Collector-Emitter Voltage	$V_{BE} = -2V$	400	600	V
V_{EBO}	Emitter-Base Voltage		10		V
I_C	Collector Current	() = $p_w \leq 1ms$	30 (60)		A
$-I_C$	Reverse Collector Current		30		A
I_B	Base Current		2		A
P_T	Total power dissipation	$T_C = 25^\circ C$	250		W
T_j	Junction Temperature		-40 ~ +150		$^\circ C$
T_{stg}	Storage Temperature		-40 ~ +125		$^\circ C$
V_{ISO}	Isolation Voltage	A.C.1minute	2500		V
	Mounting Torque	Mounting (M6)	Recommended Value 1.5~2.5 (15~25)		N·m (kgf·cm)
		Terminal (M4)	Recommended Value 1.0~1.4 (10~14)		
	Mass	Typical Value	400		g

Electrical Characteristics

($T_j=25^\circ C$)

Symbol	Item	Conditions	Ratings		Unit	
			Min.	Max.		
I_{CBO}	Collector Cut-off Current	$V_{CB} = V_{CBO}$		1.0	mA	
I_{EBO}	Emitter Cut-off Current	$V_{EB} = V_{EBO}$		300	mA	
$V_{CEO(SUS)}$	Collector Emitter Sustaining Voltage	QF30AA40	300		V	
		QF30AA60	450			
$V_{CEX(SUS)}$	Collector Emitter Sustaining Voltage	QF30AA40	400		V	
		QF30AA60	600			
h_{FE}	DC Current Gain	$I_C = 30A, V_{CE} = 2V$	75			
		$I_C = 30A, V_{CE} = 5V$	100			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 30A, I_B = 0.4A$		2.0	V	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 30A, I_B = 0.4A$		2.5	V	
t_{on}	Switching Time	On Time	1.0		μs	
t_s			Storage Time	12.0		
t_f				Fall Time		2.0
V_{ECO}	Collector-Emitter Reverse Voltage	$-I_C = 30A$			1.4	V
$R_{th(j-c)}$	Thermal Impedance (junction to case)	Transistor part		0.5	$^\circ C/W$	
		Diode part		1.6		