TRANSISTOR MODULE (THREE PHASES BRIDGE TYPE)

QF50AA40/60

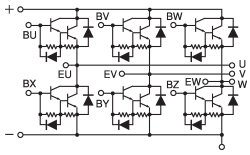
TOP

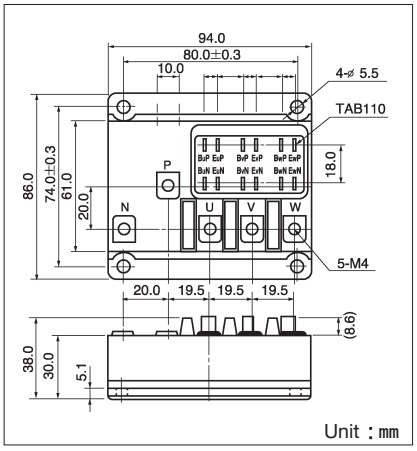
QF50AA is six pack Darlington power transistor module which has six transistors connected in three phase bridge configuration. Each transistor has a reverse paralleled fast recovery diode. The mounting base of the module is electrically isolated from semiconductor elements for simple heatsink construction,

- I_C=50A, 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 (VVVF), AC Servo, UPS





■Maximum Ratings

(Tj=25℃)

Symbol	Item		Conditions	Ratings QF50AA40	Ratings QF50AA60	Unit
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		( )=pw≦1ms	50 (100)		A
$-I_C$	Reverse Collector Current			50		A
I_B	Base Current			3		A
P_T	Total power dissipation		T_C=25℃	300		W
T_j	Junction Temperature			−40～+150		℃
Tstg	Storage Temperature			−40～+125		℃
V_{ISO}	Isolation Voltage		A.C.1minute	2500		V
	Mounting Torque	Mounting (M6)	Recommended Value 1.5～2.5 (15～25)	2.7 (28)		N·m kgf·cm
		Terminal (M4)	Recommended Value 1.0～1.4 (10～14)	1.5 (15)		
	Mass		Typical Value	400		g

■Electrical Characteristics

(Tj=25℃)

Symbol	Item		Conditions	Ratings Min.	Ratings Max.	Unit
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 Sustaning Voltage	**QF50AA40**	I_C=1A	300		V
		QF50AA60		450		
$V_{CEX(SUS)}$		**QF50AA40**	I_C=10A, I_{B2}=−5A	400		V
		QF50AA60		600		
h_{FE}	DC Current Gain		I_C=50A, V_{CE}=2V	75		
			I_C=50A, V_{CE}=5V	100		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		I_C=50A, I_B=0.67A		2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		I_C=50A, I_B=0.67A		2.5	V
ton	Switching Time	On Time	Vcc=300V, I_C=50A I_{B1}=1A, I_{B2}=−1A		1.0	μs
ts		Storage Time			12.0	
tf		Fall Time			2.0	
V_{ECO}	Collector-Emitter Reverse Voltage		$-I_C$=50A		1.4	V
Rth(j-c)	Thermal Impedance (junction to case)		Transistor part		0.4	℃/W
			Diode part		1.3	

SanRex

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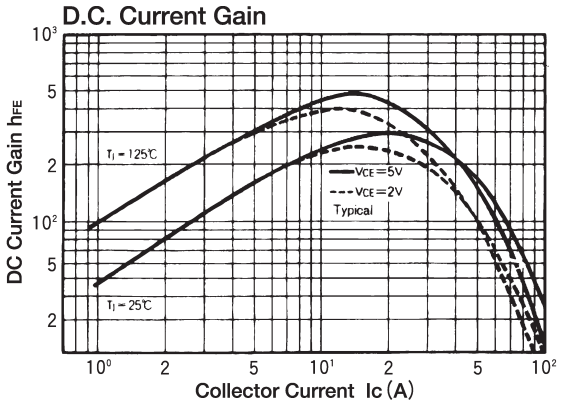

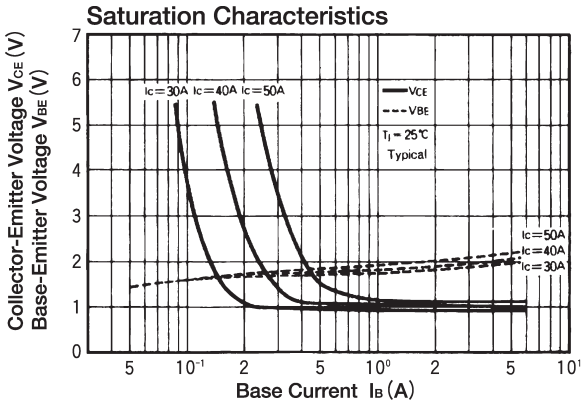

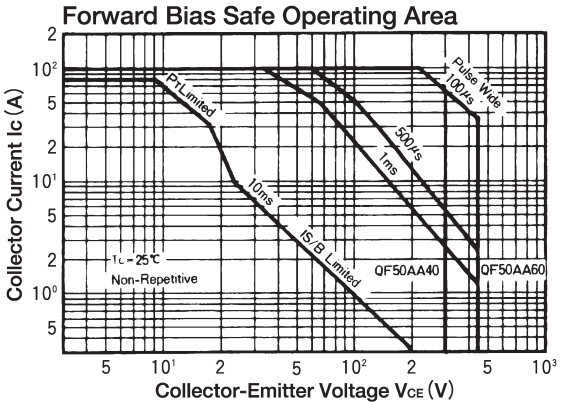

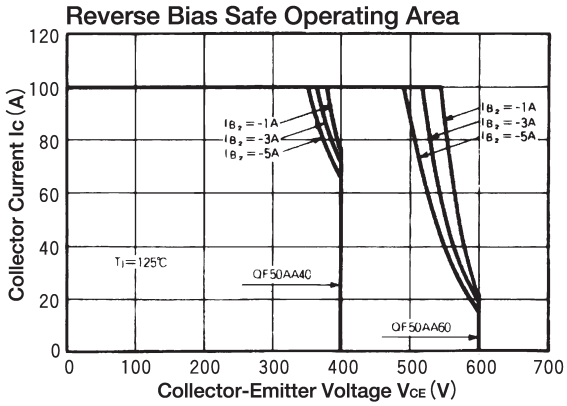

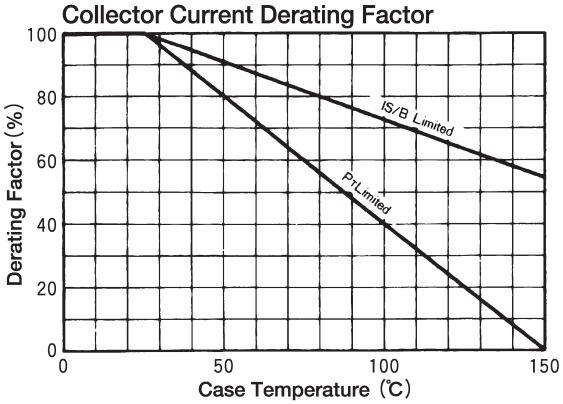

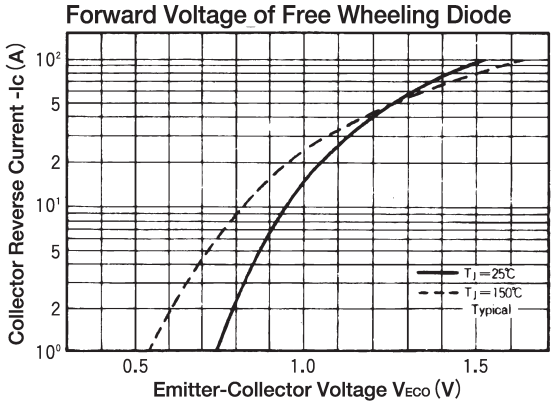

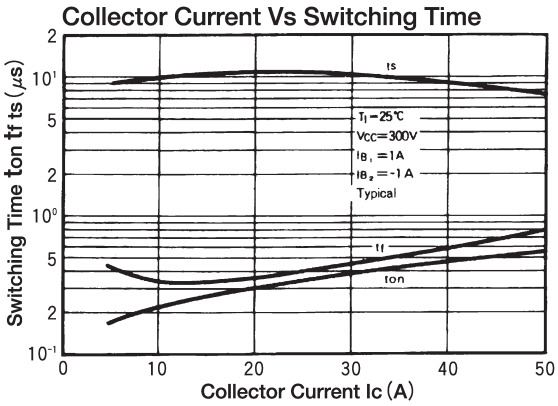

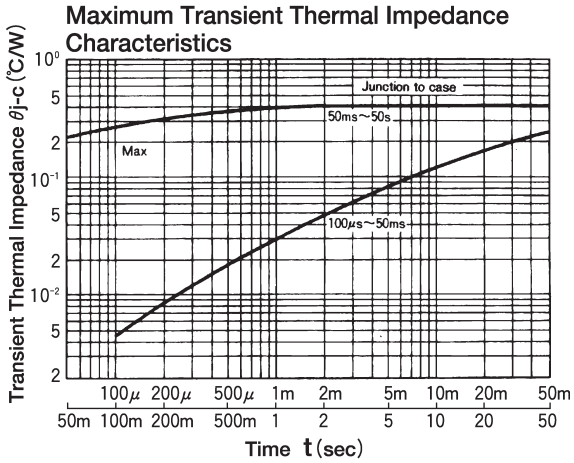

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