

TOSHIBA POWER TRANSISTOR MODULE SILICON NPN TRIPLE DIFFUSED TYPE

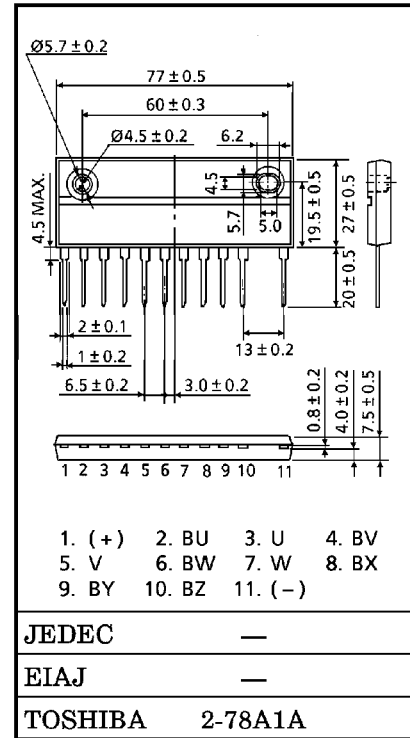
MP6501A

HIGH POWER SWITCHING APPLICATIONS

MOTOR CONTROL APPLICATIONS

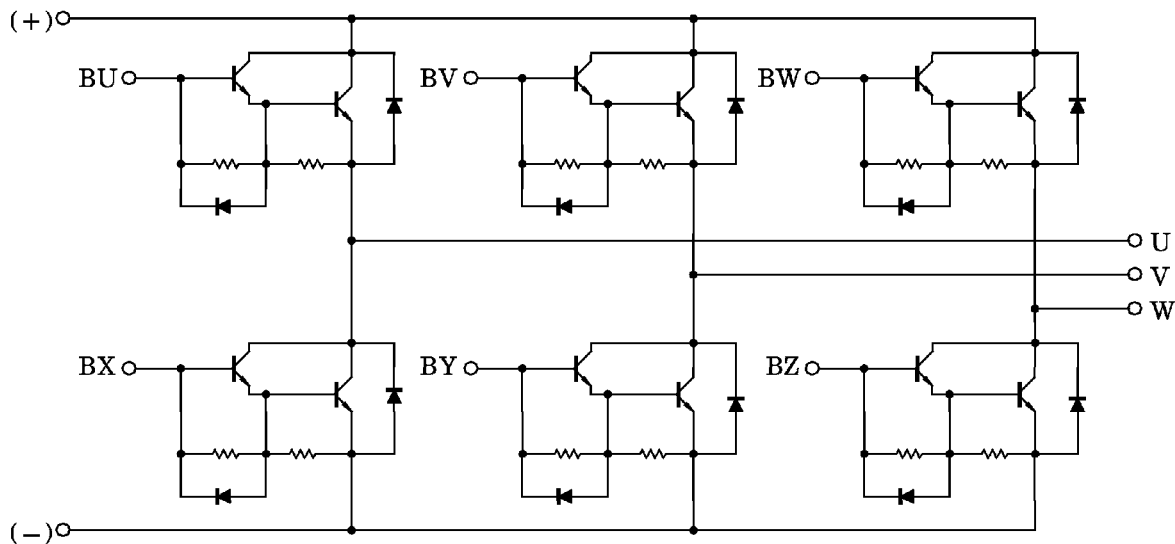
Unit in mm

- The Electrodes are is Isolated from Case.
- 6 Darlington Transistor Built Into in 1 Package
- High Input Impedance
- High DC Current Gain
: $h_{FE} = 100$ (Min.) ($I_C = 15A$)
- Low Saturation Voltage
: $V_{CE(sat)} = 2.1V$ (Max.) ($I_C = 15A$)



Weight : 44g

EQUIVALENT CIRCUIT



961001EAA2

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MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V _{CB0}	500	V
Collector-Emitter Sustaining Voltage		V _{CEx (SUS)}	500	V
		V _{CE0 (SUS)}	400	
Emitter-Base Voltage		V _{EBO}	6	V
Collector Current	DC	I _C	15	A
	1ms	I _{CP}	30	
Forward Current	DC	I _F	15	A
	1ms	I _{FM}	30	
Base Current		I _B	1.0	A
Collector Power Dissipation		P _C	60	W
Junction Temperature		T _j	150	°C
Storage Temperature Range		T _{stg}	-40~125	°C
Isolation Voltage		V _{Isol}	2500 (AC 1Min.)	V
Screw Torque		—	1.5	N·m

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-Off Current		I _{CBO}	V _{CB} = 500V, I _E = 0	—	—	1.0	mA
Emitter Cut-Off Current		I _{EBO}	V _{BE} = 6V, I _C = 0	—	—	100	mA
Collector-Emitter Sustaining Voltage		V _{CEx (SUS)}	I _C = 0.5A, L = 40mH	400	—	—	V
DC Current Gain		h _{FE}	V _{CE} = 5V, I _C = 15A	100	—	—	
Collector-Emitter Saturation Voltage		V _{CE (sat)}	I _C = 15A, I _B = 0.4A	—	1.3	2.1	V
Base-Emitter Saturation Voltage		V _{BE (sat)}	I _C = 15A, I _B = 0.4A	—	2.0	2.5	V
Switching Time	Turn-On Time	t _{on}	<p>INPUT OUTPUT I_{B1} I_{B2} $V_{CC} = 300V$ $50\mu s$ 20Ω</p>	—	0.6	1.0	μs
	Storage Time	t _{stg}		—	5	12	
	Fall Time	t _f		$I_{B1} = -I_{B2} = 0.4A$ DUTY CYCLE = 0.5%	—	1.5	
Forward Voltage		V _F	I _F = 15A, I _B = 0	—	1.5	2.0	V
Reverse Recovery Time		t _{rr}	I _F = 15A, V _{BE} = -2A di / dt = 60A / μs	—	—	0.7	μs
Thermal Resistance		R _{th (j-c)}	—	—	—	2.08	°C / W

