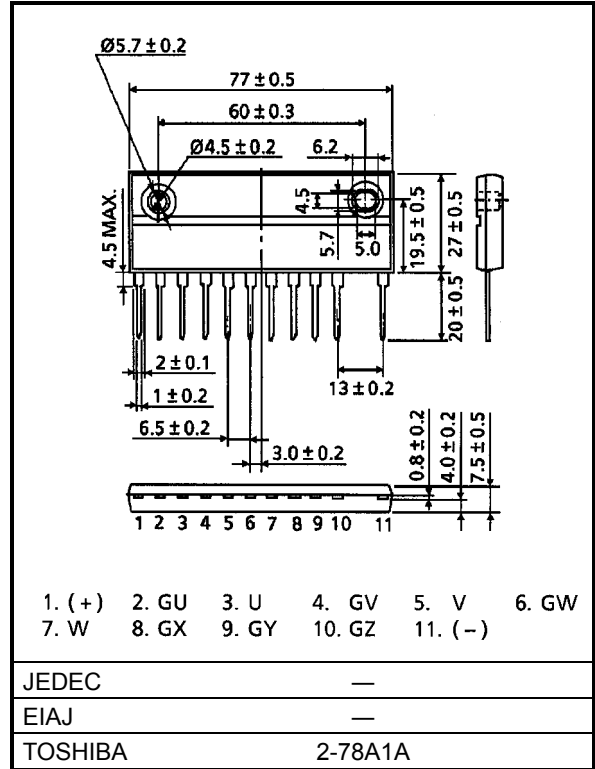


# MP6754

High Power Switching Applications  
 Motor Control Applications

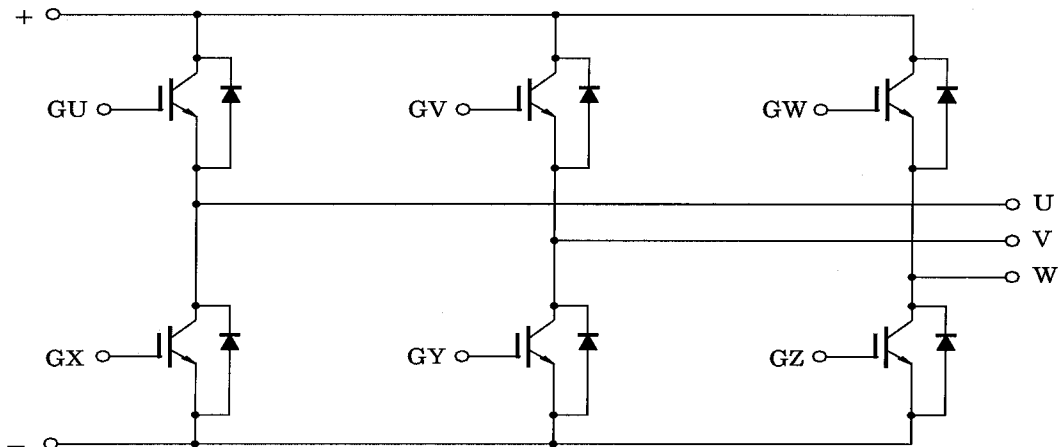
Unit: mm

- The electrodes are isolated from case.
- 6 IGBTs are built into 1 package.
- Enhancement-mode
- Low saturation voltage  
 :  $V_{CE(sat)} = 4.0V$  (Max) ( $I_C = 10A$ )
- High speed :  $t_f = 0.35\mu s$  (Max) ( $I_C = 10A$ )  
 $t_{rr} = 0.15\mu s$  (Max) ( $I_F = 10A$ )



Weight: 44g (Typ.)

## Equivalent Circuit



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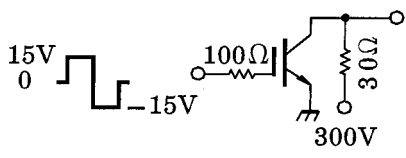
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## Maximum Ratings (Ta = 25°C)

Characteristic		Symbol	Rating	Unit
Collector-emitter voltage		$V_{CES}$	600	V
Gate-emitter voltage		$V_{GES}$	$\pm 20$	V
Collector current	DC	$I_C$	10	A
	1ms	$I_{CP}$	20	
Forward current	DC	$I_F$	10	A
	1ms	$I_{FM}$	20	
Collector power dissipation (Tc = 25°C)		$P_C$	40	W
Junction temperature		$T_j$	150	°C
Storage temperature range		$T_{stg}$	-40 ~ 125	°C
Isolation voltage		$V_{ISOL}$	2500 (AC 1 minute)	V
Screw torque		—	1.5	N·m

## Electrical Characteristics (Ta = 25°C)

Characteristic		Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current		$I_{GES}$	$V_{GE} = \pm 20V, V_{CE} = 0$	—	—	$\pm 500$	nA
Collector cut-off current		$I_{CES}$	$V_{CE} = 600V, V_{GE} = 0$	—	—	1.0	mA
Gate-emitter cut-off voltage		$V_{GE (off)}$	$I_C = 10mA, V_{CE} = 5V$	6.0	—	9.0	V
Collector-emitter saturation voltage		$V_{CE (sat)}$	$I_C = 10A, V_{GE} = 15V$	—	3.0	4.0	V
Input capacitance		$C_{ies}$	$V_{CE} = 10V, V_{GE} = 0, f = 1MHz$	—	620	—	pF
Switching time	Rise time	$t_r$		—	0.3	0.6	μs
	Turn-on time	$t_{on}$		—	0.4	0.8	
	Fall time	$t_f$		—	0.2	0.35	
	Turn-off time	$t_{off}$		—	0.4	0.8	
Forward voltage		$V_F$	$I_F = 10A, V_{GE} = 0$	—	1.7	2.5	V
Reverse recovery time		$t_{rr}$	$I_F = 10A, V_{GE} = -10V$ $di / dt = 100A / \mu s$	—	0.08	0.15	μs
Thermal resistance	$R_{th (j-c)}$	Transistor		—	—	3.09	°C / W
		Diode		—	—	3.09	

000707EAA2

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