

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (DARLINGTON)

2SD1525

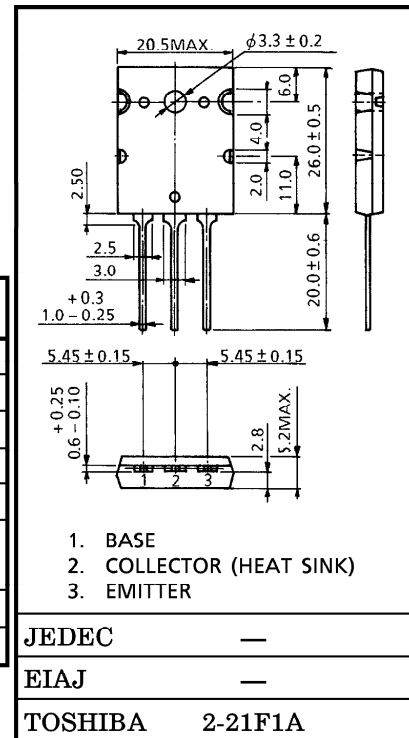
HIGH CURRENT SWITCHING APPLICATIONS

Unit in mm

- High Collector Current : $I_C=30A$
- High DC Current Gain : $h_{FE}(1)=1000$ (Min.)
- Monolithic Construction with Built-In Base-Emitter Shunt Resistor.

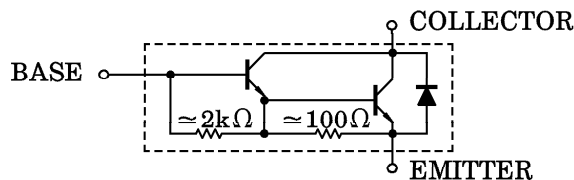
MAXIMUM RATINGS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	30	A
Base Current	I_B	5	A
Collector Power Dissipation ($T_c = 25^\circ C$)	P_C	150	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$



Weight : 9.8g (Typ.)

EQUIVALENT CIRCUIT



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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT			
Collector Cut-off Current	I_{CBO}	$V_{CB} = 100V, I_E = 0$	—	—	100	μA			
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$	—	—	10	mA			
Collector-Emitter Breakdown Voltage	$V_{(BR) CEO}$	$I_C = 50mA, I_B = 0$	100	—	—	V			
DC Current Gain	$h_{FE} (1)$	$V_{CE} = 5V, I_C = 20A$	1000	—	—				
	$h_{FE} (2)$	$V_{CE} = 5V, I_C = 30A$	200	—	—				
Collector-Emitter Saturation Voltage	$V_{CE} (sat)$	$I_C = 20A, I_B = 0.2A$	—	—	1.5	V			
Base-Emitter Saturation Voltage	$V_{BE} (sat)$		—	—	2.5	V			
Emitter-Collector Forward Voltage	V_{ECF}	$I_E = 10A, I_B = 0$	—	—	3	V			
Transition Frequency	f_T	$V_{CE} = 5V, I_C = 1A$	—	10	—	MHz			
Collector Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	500	—	pF			
Switching Time	Turn-on Time	t_{on}				—	1.5	—	μs
	Storage Time	t_{stg}				—	10	—	
	Fall Time	t_f				$I_{B1} = -I_{B2} = 0.01A,$ $DUTY\ CYCLE \leq 1\%$	—	1.5	

