

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (DARLINGTON)

2SD1525

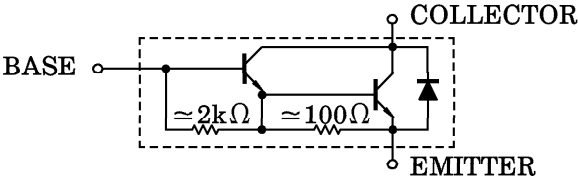
HIGH CURRENT SWITCHING APPLICATIONS

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

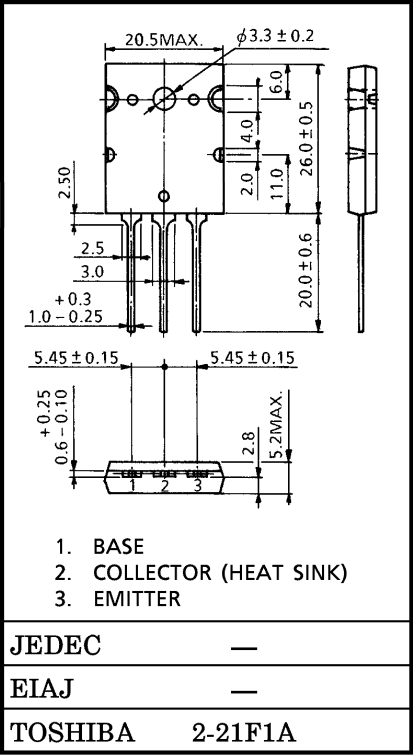
MAXIMUM RATINGS (Ta = 25°C)

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 (Tc = 25°C)	P _C	150	W
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-55~150	°C

EQUIVALENT CIRCUIT



Unit in mm



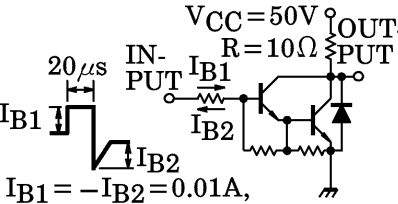
JEDEC —

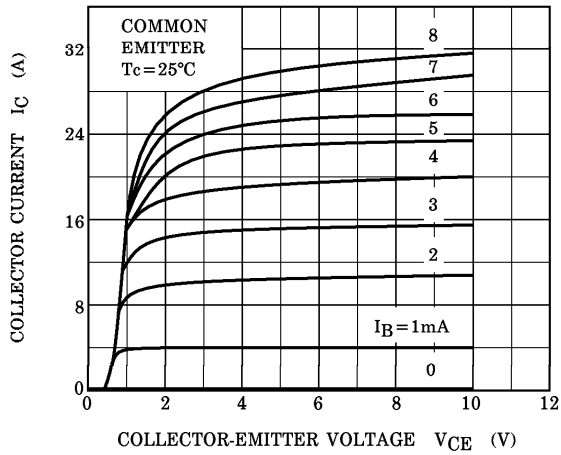
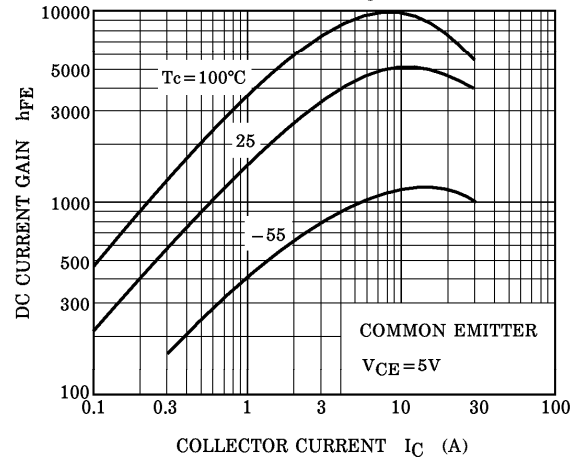
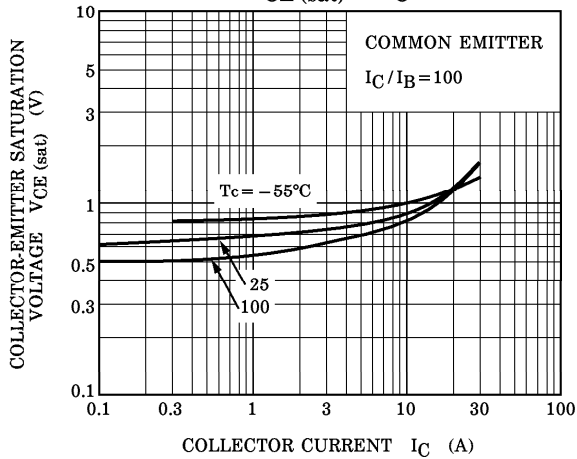
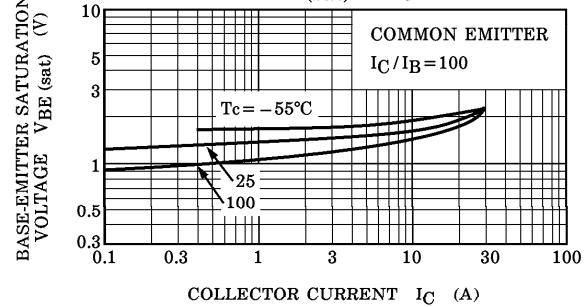
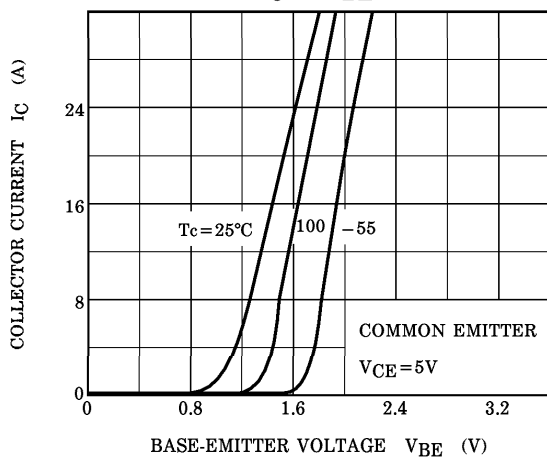
EIAJ —

TOSHIBA 2-21F1A

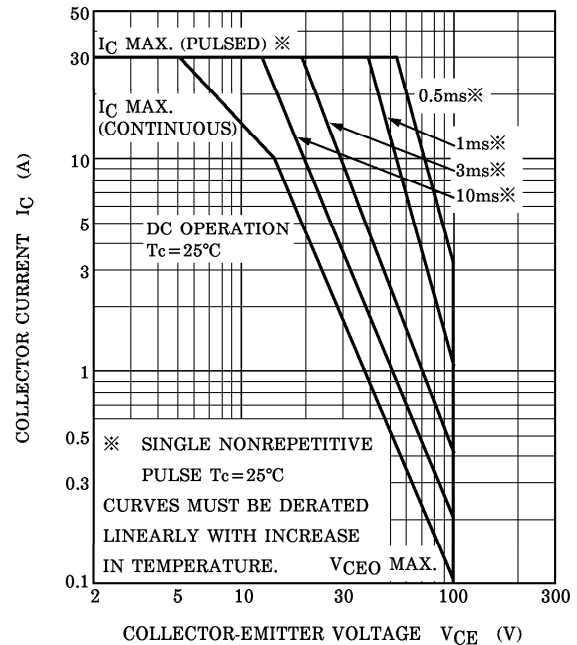
Weight : 9.8g (Typ.)

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}	 <p>$V_{CC} = 50V$ $R = 10\Omega$ I_{B1} I_{B2} $20\mu s$ $DUTY\ CYCLE \leq 1\%$</p>	—	1.5	—	μs
	Storage Time	t_{stg}		—	10	—	
	Fall Time	t_f		—	1.5	—	

$I_C - V_{CE}$  $h_{FE} - I_C$  $V_{CE(sat)} - I_C$  $V_{BE(sat)} - I_C$  $I_C - V_{BE}$ 

SAFE OPERATING AREA



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