

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (DARLINGTON)

2SD1525

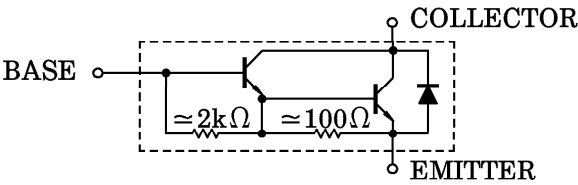
HIGH CURRENT SWITCHING APPLICATIONS

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

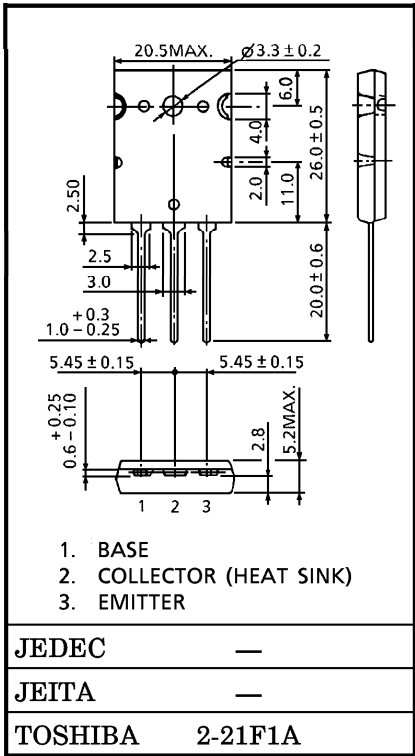
MAXIMUM RATINGS ($T_c = 25^{\circ}C$)

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}	$-55\sim150$	$^{\circ}C$

EQUIVALENT CIRCUIT

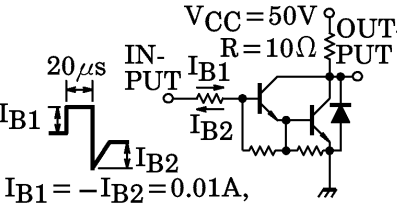


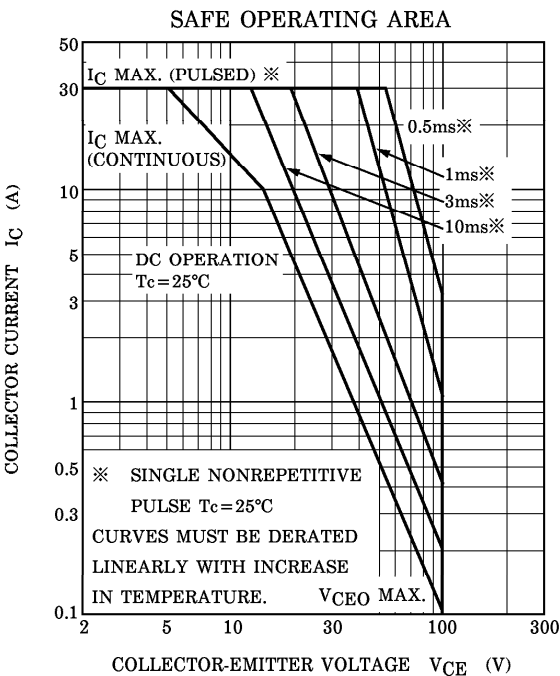
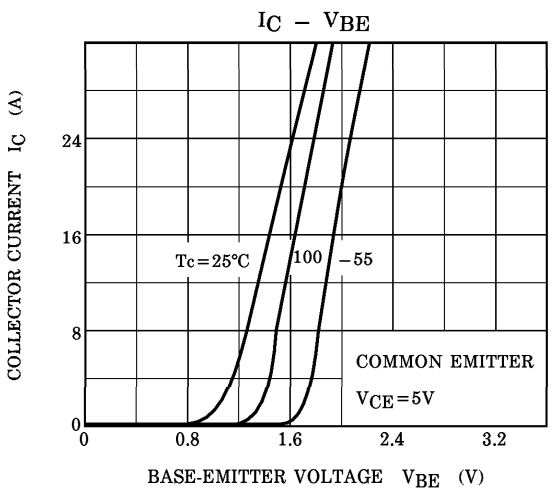
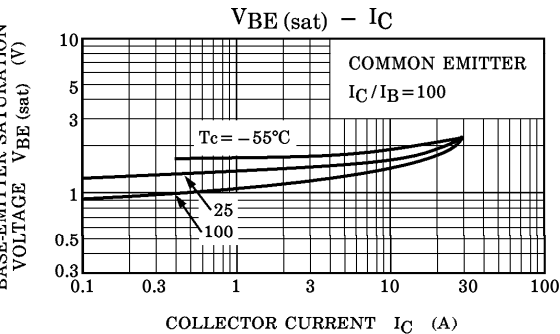
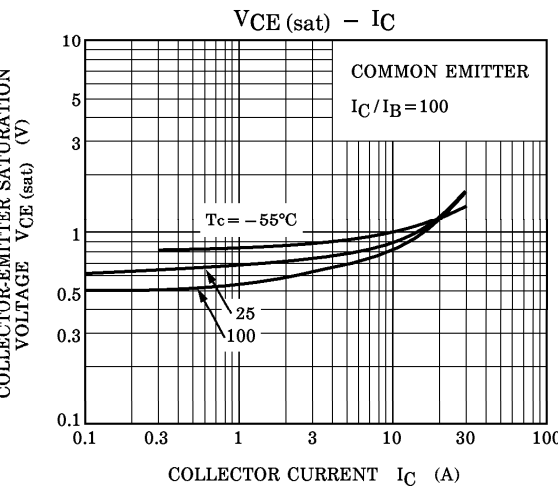
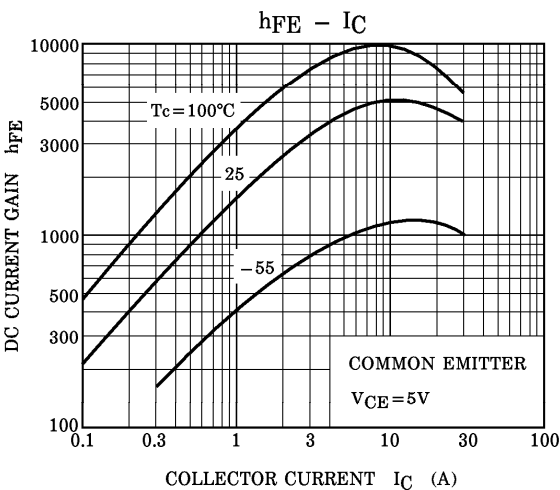
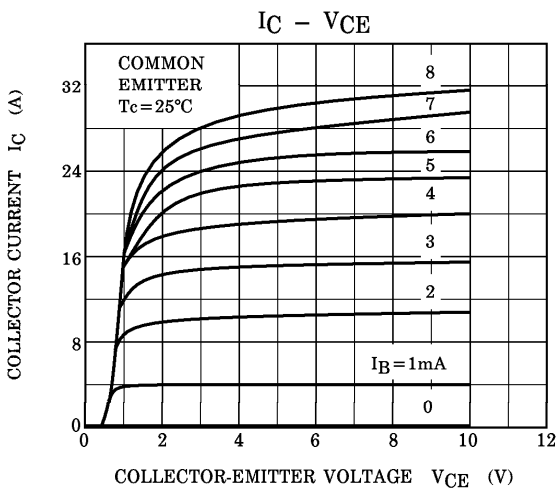
Unit in mm



Weight : 9.8g (Typ.)

ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$)

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



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