

TOSHIBA Transistor Silicon NPN Triple Diffused Type (Darlington)

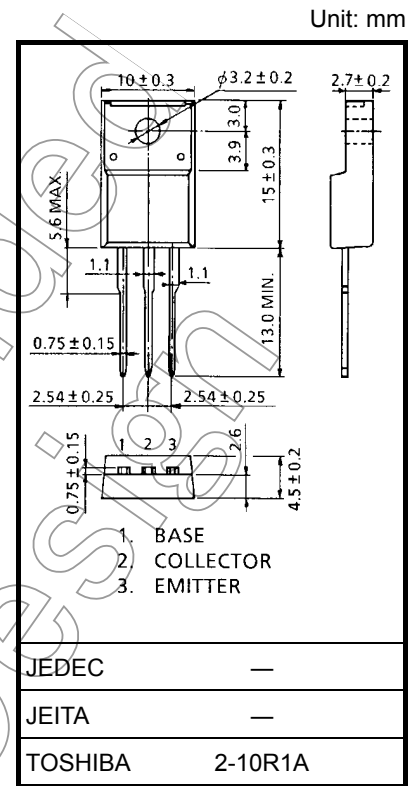
# 2SD1415A

High-Power Switching Applications  
Hammer Drive, Pulse Motor Drive Applications

- High DC current gain:  $h_{FE} = 2000$  (min) ( $V_{CE} = 3\text{ V}$ ,  $I_C = 3\text{ A}$ )
- Low saturation voltage:  $V_{CE(sat)} = 1.5\text{ V}$  (max) ( $I_C = 3\text{ A}$ )

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristics		Symbol	Rating	Unit
Collector-base voltage		$V_{CBO}$	120	V
Collector-emitter voltage		$V_{CEO}$	100	V
Emitter-base voltage		$V_{EBO}$	6	V
Collector current	DC	$I_C$	7	A
	Pulse	$I_{CP}$	10	
Base current		$I_B$	0.7	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	$P_C$	2.0	W
	$T_c = 25^\circ\text{C}$		25	
Junction temperature		$T_j$	150	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	-55 to 150	$^\circ\text{C}$

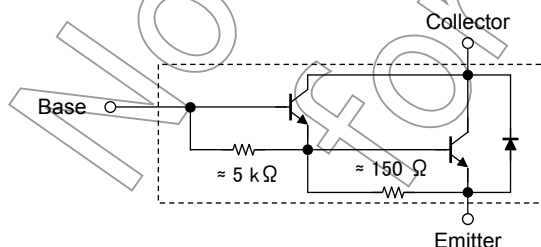


JEDEC	—
JEITA	—
TOSHIBA	2-10R1A

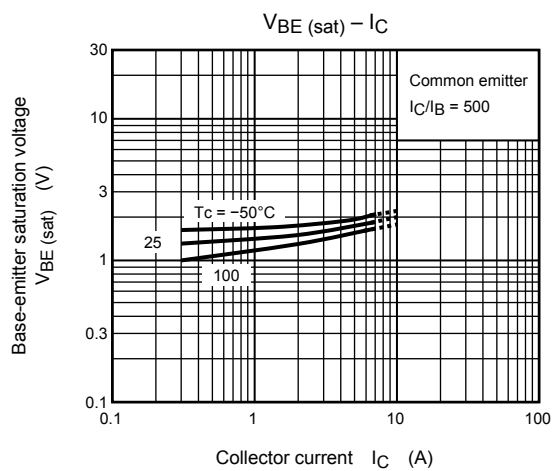
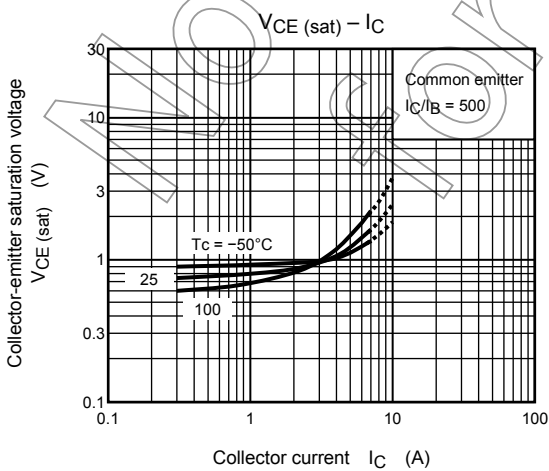
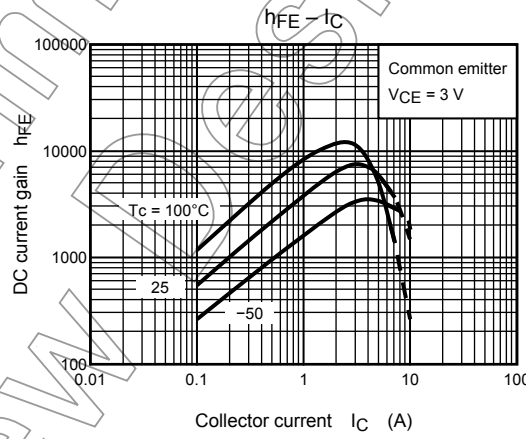
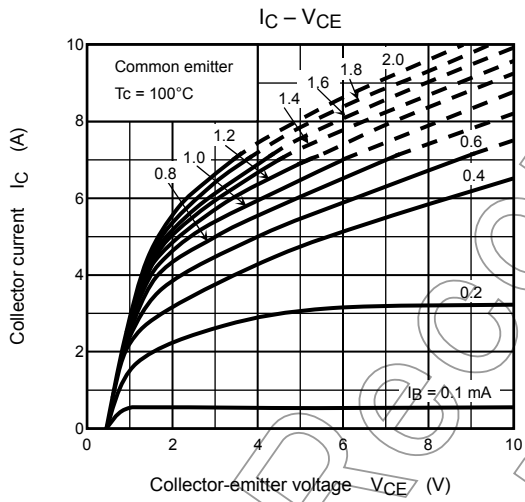
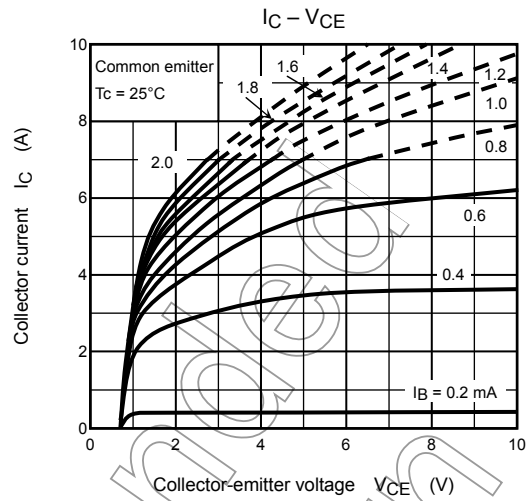
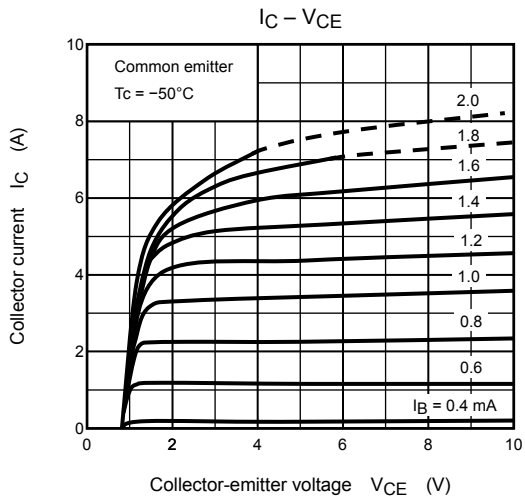
Weight: 1.7 g (typ.)

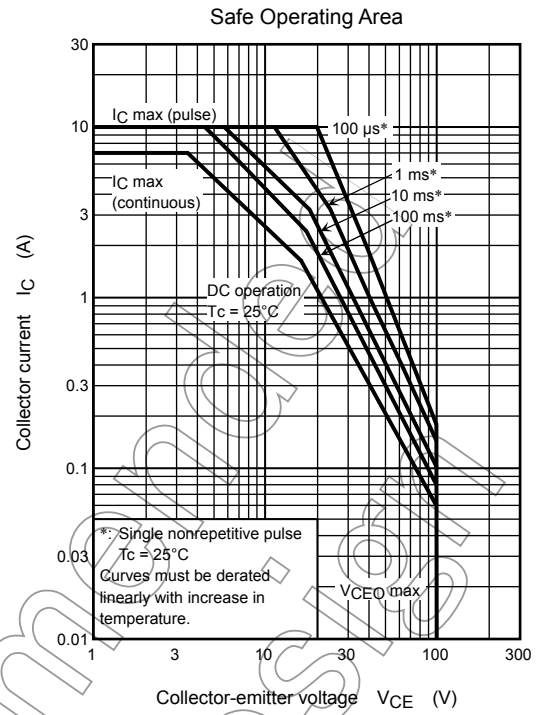
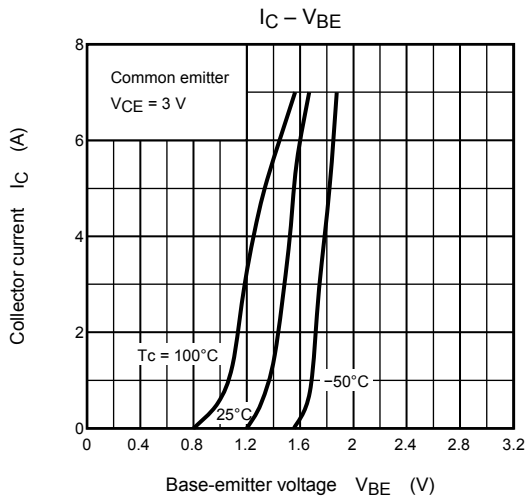
Note1: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

### Equivalent Circuit









Not Recommended for New Design

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