

---

# 2SD1141(K)

Silicon NPN Triple Diffused

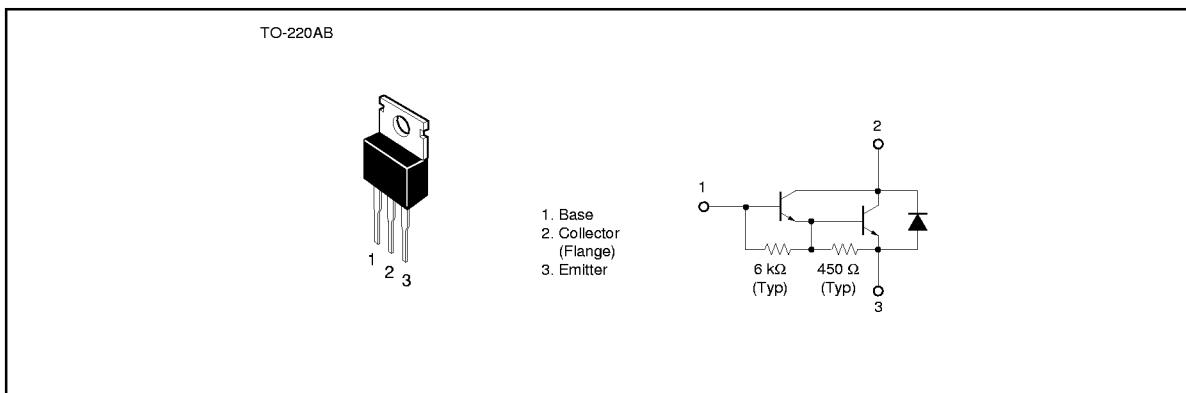
**HITACHI**

---

## Application

High voltage switching, igniter

## Outline



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

Item	Symbol	Rating	Unit
Collector to base voltage	$V_{CBO}$	400	V
Collector to emitter voltage	$V_{CEO}$	300	V
Emitter to base voltage	$V_{EBO}$	7	V
Collector current	$I_C$	6	A
Collector peak current	$I_{C(\text{peak})}$	10	A
Collector power dissipation	$P_c^{*1}$	40	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-55 to +150	$^\circ\text{C}$

Note: 1. Value at  $T_c = 25^\circ\text{C}$ .

## 2SD1141(K)

### Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	400	—	—	V	$I_c = 0.1 \text{ mA}, I_e = 0$
Collector to emitter sustain voltage	$V_{\text{CEO}(\text{sus})}$	300	—	—	V	$I_c = 3 \text{ A}, PW = 50 \mu\text{s}, f = 50 \text{ Hz}, L = 10 \text{ mH}$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	7	—	—	V	$I_e = 50 \text{ mA}, I_c = 0$
Collector cutoff current	$I_{\text{CEO}}$	—	—	100	$\mu\text{A}$	$V_{\text{CE}} = 300 \text{ V}, R_{\text{BE}} = \infty$
DC current transfer ratio	$h_{\text{FE}}$	500	—	—		$V_{\text{CE}} = 2 \text{ V}, I_c = 4 \text{ A}$
Collector to emitter saturation voltage	$V_{\text{CE}(\text{sat})}$	—	—	1.5	V	$I_c = 4 \text{ A}, I_b = 40 \text{ mA}$
Base to emitter saturation voltage	$V_{\text{BE}(\text{sat})}$	—	—	2.0	V	$I_c = 4 \text{ A}, I_b = 40 \text{ mA}$
Turn on time	$t_{\text{on}}$	—	2.0	—	$\mu\text{s}$	$I_c = 4 \text{ A}, I_{b1} = -I_{b2} = 40 \text{ mA}$
Turn off time	$t_{\text{off}}$	—	23	—	$\mu\text{s}$	$I_c = 4 \text{ A}, I_{b1} = -I_{b2} = 40 \text{ mA}$

See characteristics curves of 2SD1113(K).

