

## 2SD2323

Silicon NPN Triple Diffused  
High Voltage Switching, Igniter

### Feature

- Built-in High voltage zener diode (300V)
- High speed switching

### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	$V_{CBO}$	300	V
Collector to emitter voltage	$V_{CEO}$	300	V
Emitter to base voltage	$V_{EBO}$	7	V
Collector current	$I_C$	6	A
Diode Current	$I_D^{*1}$	6	A
Collector peak current	$i_C(\text{peak})$	10	A
Collector power dissipation	$P_C^{*1}$	30	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

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

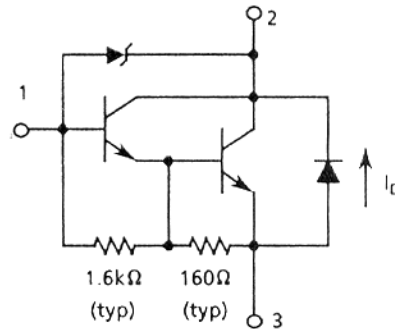
### Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to base breakdown voltage	$V_{(BR)CBO}$	300	—	420	V	$I_C = 0.1 \text{ mA}, I_E = 0$
Collector to emitter sustain voltage	$V_{CEO(SUS)}$	300	—	—	V	$I_C = 3 \text{ A}, R_{BE} = \infty, L = 10 \text{ mH}$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 50 \text{ mA}, I_C = 0$
Collector cutoff current	$I_{CEO}$	—	—	100	$\mu\text{A}$	$V_{CE} = 300 \text{ V}, R_{BE} = \infty$
DC current transfer ratio	$h_{FE}$	500	—	—		$V_{CE} = 2 \text{ V}, I_C = 4 \text{ A}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	$I_C = 4 \text{ A}, I_B = 40 \text{ mA}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	2.0	V	$I_C = 4 \text{ A}, I_B = 40 \text{ mA}$
Emitter to collector forward voltage	$V_{ECF}$	—	—	3.5	V	$I_F = 6 \text{ A}$

TO-220FM



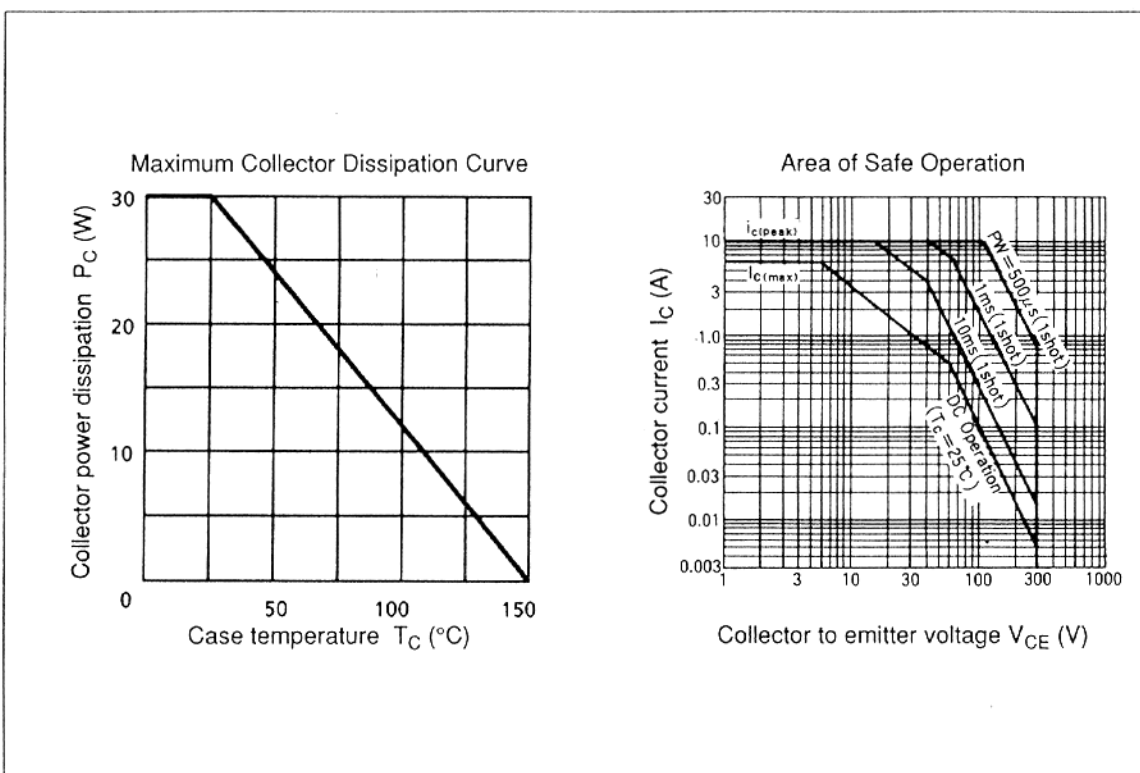
1. Base
2. Collector
3. Emitter



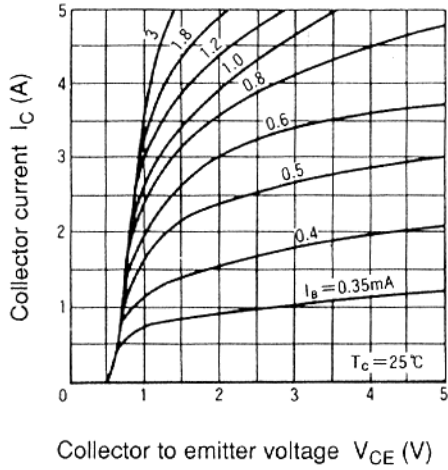
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### Electrical Characteristics (Ta = 25°C) (cont)

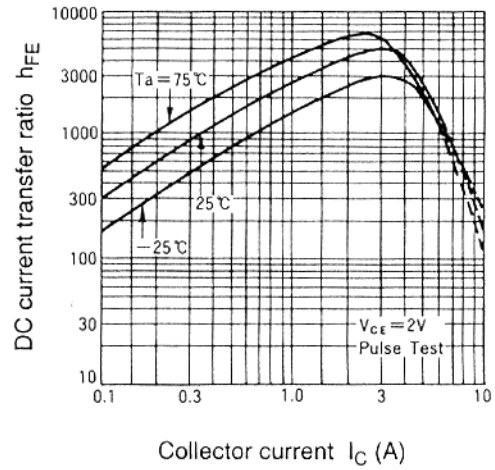
Item	Symbol	Min	Typ	Max	Unit	Test condition
Turn on time	$t_{on}$	—	1.2	—	$\mu s$	$I_C = 4 A, V_{CC} = 20 V$
Storage time	$t_{stg}$	—	8.0	—		$I_{B1} = -I_{B2} = 40mA$
Fall time	$t_f$	—	8.0	—		



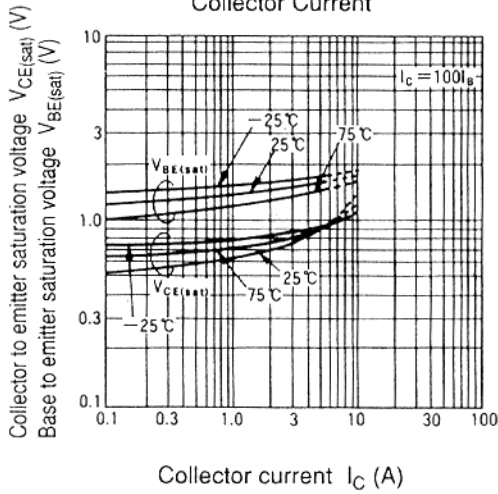
Typical Output Characteristics



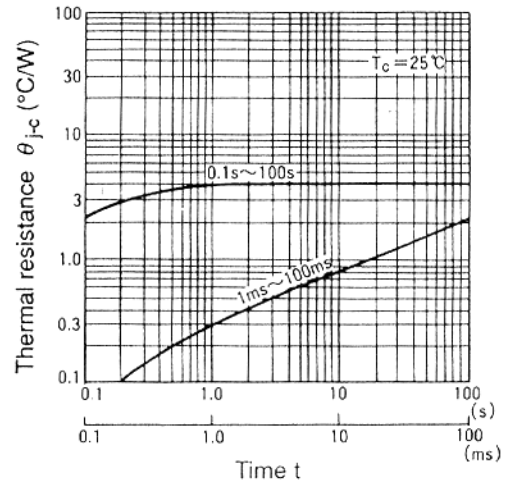
DC Current Transfer Ratio vs. Collector Current



Saturation Voltage vs. Collector Current



Transient Thermal Resistance



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