

## 2SD2299

Silicon NPN Triple Diffused  
CTV Horizontal Deflection Output

### Feature

- High breakdown voltage  
 $V_{CBO} = 1500\text{ V}$
- Built-in damper diode type

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

Item	Symbol	Rating	Unit
Collector to emitter voltage	$V_{CES}$	1500	V
Emitter to base voltage	$V_{EBO}$	6	V
Collector current	$I_C$	3	A
Collector peak current	$i_{C(\text{peak})}$	3.5	A
Collector surge current	$i_{C(\text{surge})}$	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	$^\circ\text{C}$
C to E diode forward current	$I_D$	3.5	A

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

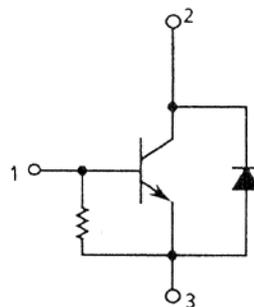
### Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Min	Typ	Max	Unit	Test condition
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	$I_E = 300\text{ mA}$ , $I_C = 0$
Collector cutoff current	$I_{CES}$	—	—	500	$\mu\text{A}$	$V_{CE} = 1500\text{ V}$ , $R_{BE} = 0$
Collector to emitter saturation voltage	$V_{CE(\text{sat})}$	—	—	5	V	$I_C = 2.5\text{ A}$ , $I_B = 0.8\text{ A}$
Base to emitter saturation voltage	$V_{BE(\text{sat})}$	—	—	1.5	V	$I_C = 2.5\text{ A}$ , $I_B = 0.8\text{ A}$
C to E diode forward voltage	$V_{ECF}$	—	—	2.2	V	$I_F = 3\text{ A}$
Fall time	$t_f$	—	—	0.8	$\mu\text{s}$	$I_{CP} = 2.75\text{ A}$ , $I_{B1} = 0.6\text{ A}$ , $I_{B2} = -1.3\text{ A}$ , $L_B = 0$

TO-3PFM

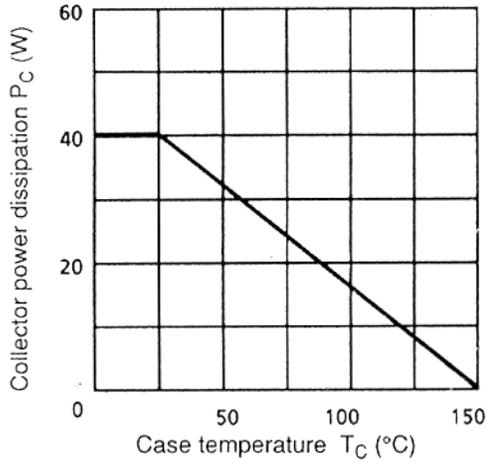


1. Base
2. Collector
3. Emitter

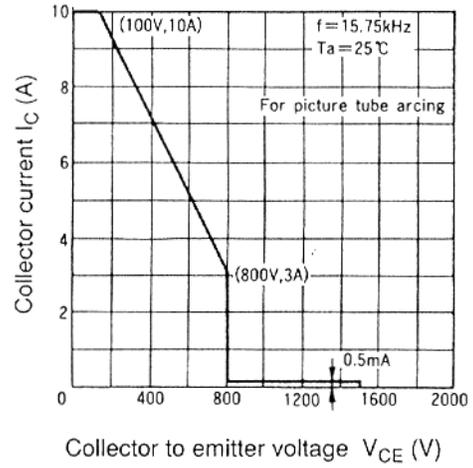


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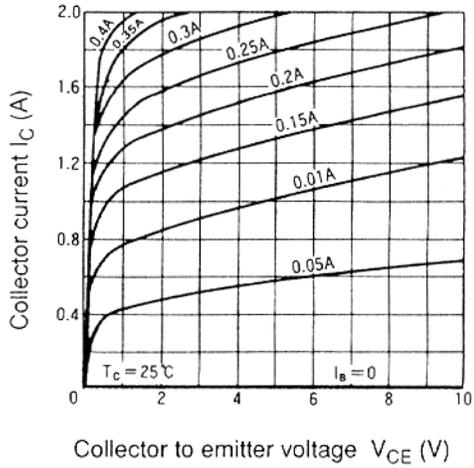
Maximum Collector Power Dissipation Curve



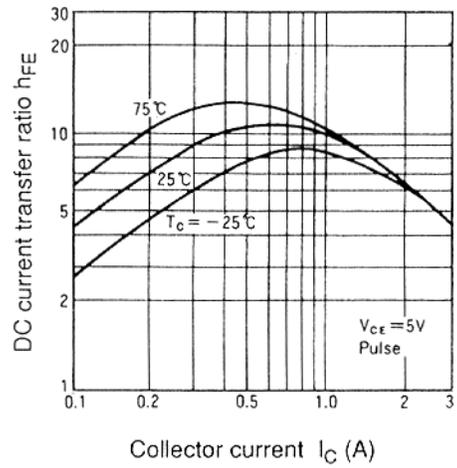
Area of Safe Operation



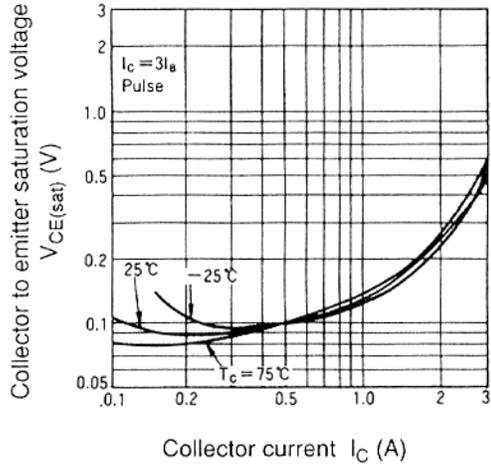
Typical Output Characteristics



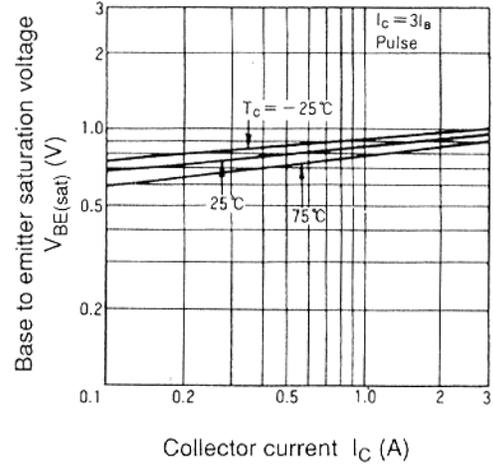
DC Current Transfer Ratio vs. Collector Current



Collector to Emitter Saturation Voltage vs. Collector Current



Base to Emitter Saturation Voltage vs. Collector Current



Collector to Emitter Saturation Voltage vs. Base Current

