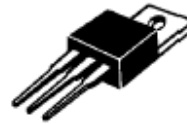
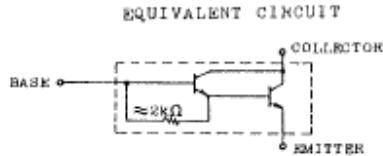


# High Voltage Darlington Power Transistor NPN Type 6 Amps, 300 Voltage, 30watts

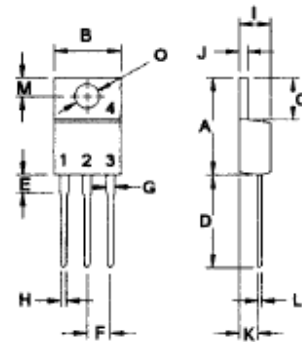
**2SD798**

**FEATURES:**

- \*Collector-Emitter Sustaining Voltage -  
 $V_{CE(sus)} = 300\text{ V (Min)}$
- \*Collector-Emitter Saturation Voltage -  
 $V_{CE(sat)} = 2.0\text{ V (Max.) @ } I_C = 4.0\text{ A, } I_B = 40\text{ mA}$
- \*High DC current Gain  
 $hFE = 1500\text{ (Min) @ } I_C = 2.0\text{ A, } V_{CE} = 2.0\text{ V}$



**TO-220**



- PIN 1.BASE
- 2.COLLECTOR
- 3.EMITTER
- 4.COLLECTOR(CASE)

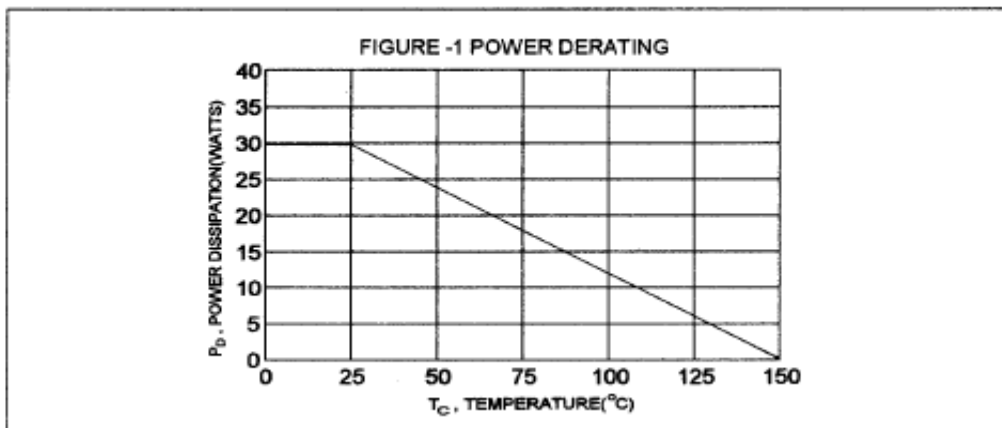
**MAXIMUM RATINGS**

Characteristic	Symbol	2SD798	Unit
Collector-Emitter Voltage	$V_{CE0}$	300	V
Collector-Base Voltage	$V_{CB0}$	600	V
Emitter-Base Voltage	$V_{EB0}$	5.0	V
Collector Current - Continuous	$I_C$	6.0	A
- Peak	$I_{CM}$	10	
Base current	$I_B$	1.0	A
Total Power Dissipation @ $T_C = 25^\circ\text{C}$	$P_D$	30	W
Derate above $25^\circ\text{C}$		0.24	W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.31
B	9.78	10.42
C	5.01	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	3.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.36
K	2.20	2.97
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90

**THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	4.16	$^\circ\text{C/W}$



# High Voltage Darlington Power Transistor

## NPN Type 6 Amps, 300 Voltage, 30watts

2SD798

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

Characteristic	Symbol	Min	Max	Unit
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**OFF CHARACTERISTICS**

Collector-Emitter Sustaining Voltage ( $I_c = 0.5 \text{ A}, L = 40 \text{ mH}$ )	$V_{CE(sus)}$	300		V
Collector Cutoff Current ( $V_{CB} = 600 \text{ V}, I_E = 0$ )	$I_{cbo}$		500	$\mu\text{A}$
Emitter Cutoff Current ( $V_{EB} = 5.0 \text{ V}, I_C = 0$ )	$I_{EBO}$		500	$\mu\text{A}$

**ON CHARACTERISTICS (1)**

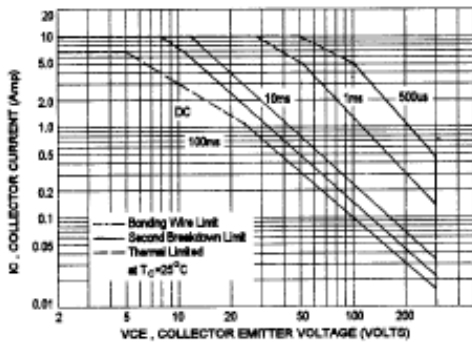
DC Current Gain ( $I_c = 2.0 \text{ A}, V_{CE} = 2.0 \text{ V}$ ) ( $I_c = 4.0 \text{ A}, V_{CE} = 2.0 \text{ V}$ )	hFE	1500 200		
Collector-Emitter Saturation Voltage ( $I_c = 4.0 \text{ A}, I_B = 40 \text{ mA}$ )	$V_{CE(sat)}$		2.0	V
Base-Emitter Saturation Voltage ( $I_c = 4.0 \text{ A}, I_B = 40 \text{ mA}$ )	$V_{BE(sat)}$		2.5	V

**SWITCHING CHARACTERISTICS**

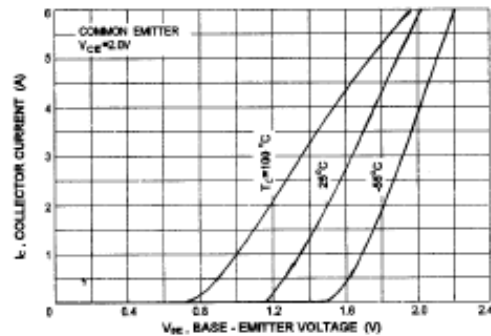
On Time	$V_{CC} = 100\text{V}, I_c = 4.0 \text{ A}$ $I_{B1} = -I_{B2} = 40 \text{ mA}$ $R_L = 25 \text{ ohm}$	$t_{on}$	1.0(typ)	$\mu\text{s}$
Storage Time		$t_s$	8.0(typ)	$\mu\text{s}$
Fall Time		$t_f$	5.0(typ)	$\mu\text{s}$

(1) Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

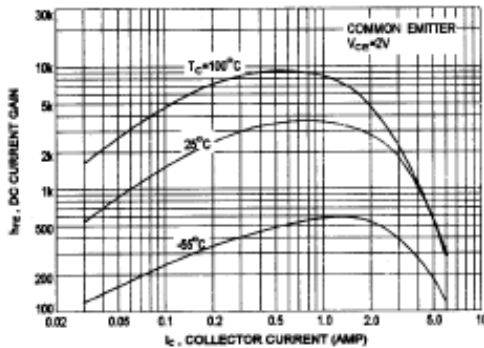
SAFE OPERATING AREA



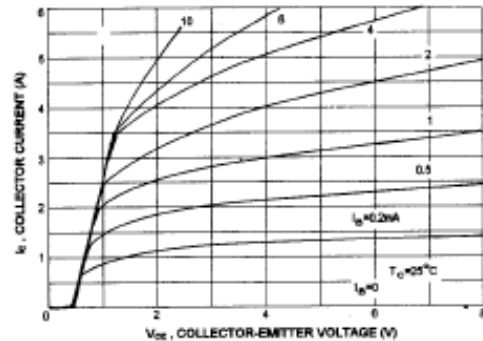
$I_c - V_{be}$



DC CURRENT GAIN



$I_c - V_{ce}$



# High Voltage Darlingon Power Transistor

## NPN Type 6 Amps, 300 Voltage, 30watts

