

2N6427

**NPN EPITAXIAL
SILICON DARLINGTON TRANSISTOR**

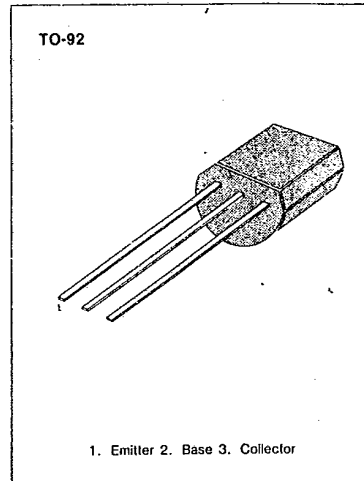
T-29-29

DARLINGTON TRANSISTOR

- Collector-Emitter Voltage: $V_{CE0} = 40V$
- Collector Dissipation: $P_C (\text{max}) = 625mW$

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ C$)

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CE0}	40	V
Collector-Base Voltage	V_{CBO}	40	V
Emitter-Base Voltage	V_{EBO}	12	V
Collector Current	I_C	500	mA
Collector Dissipation	P_C	625	mW
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ 150	$^\circ C$

**ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)**

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
*Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C = 10mA, I_B = 0$	40			V
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 100\mu A, I_E = 0$	40			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = 10\mu A, I_C = 0$	12			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 30V, I_E = 0$			50	nA
Collector Cut-off Current	I_{CEO}	$V_{CE} = 25V, I_B = 0$			1	μA
Emitter Cut-off Current	I_{EBO}	$V_{BE} = 10V, I_C = 0$			50	nA
*DC Current Gain	h_{FE}	$I_C = 10mA, V_{CE} = 5V$	10K		100K	
		$I_C = 100mA, V_{CE} = 5V$	20K		200K	
		$I_C = 500mA, V_{CE} = 5V$	14K		140K	
Collector-Emitter Saturation Voltage	$V_{CE} (\text{sat})$	$I_C = 50mA, I_B = 0.5mA$		0.71	1.2	V
		$I_C = 500mA, I_B = 0.5mA$		0.9	1.5	V
Base-Emitter Saturation Voltage	$V_{BE} (\text{sat})$	$I_C = 500mA, I_B = 0.5mA$		1.52	2	V
Base-Emitter On Voltage	$V_{BE} (\text{on})$	$I_C = 50mA, V_{CE} = 5V$		1.24	1.75	V
Output Capacitance	C_{ob}	$V_{CB} = 10V, I_C = 0$		5.4	7	pF
Noise Figure	NF	$f = 1MHz$ $I_C = 1mA, V_{CE} = 5V$ $R_S = 100K\Omega$ $f = 10KHz \text{ to } 15.7 KHz$		3	10	dB

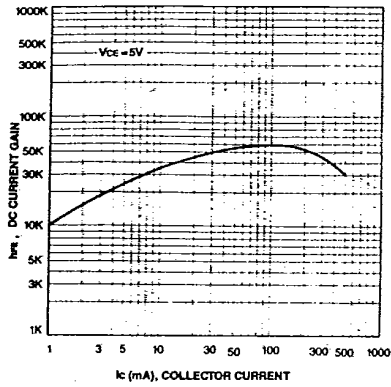
*Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$ 

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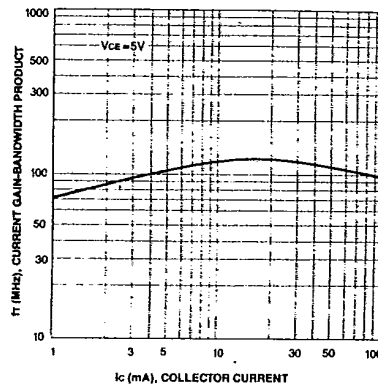
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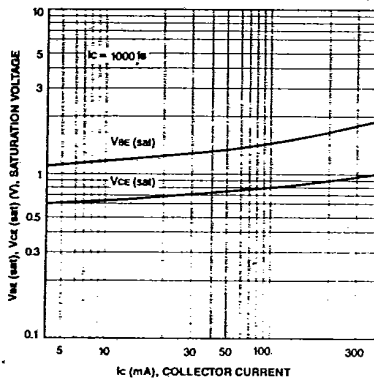
DC CURRENT GAIN



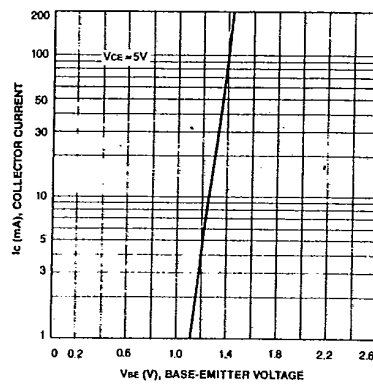
CURRENT GAIN-BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



BASE-EMITTER ON VOLTAGE



3