

Complementary power Darlington transistors

Features

- Complementary transistors in monolithic Darlington configuration
- Integrated collector-emitter antiparallel diode

Applications

- Audio power amplifier
- DC-AC converter
- General purpose switching applications

Description

The 2N6284 is an epitaxial-base NPN power transistor in monolithic Darlington configuration mounted in TO-3 metal case. It is inteded for general purpose amplifier and low frequency switching applications. The complementary PNP type is 2N6287.

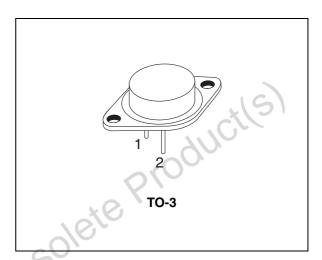


Figure 1. Internal schematic diagrams



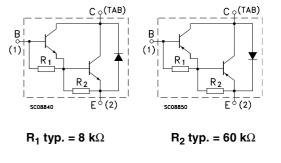


Table 1.	Device	summary
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Order code	Marking	Package	Packaging
2N6284	2N6284	TO-3	Dee
2N6287	2N6287	10-3	Bag

1 Absolute maximum ratings

			Value	
Symbol	Parameter	NPN	2N6284	Unit
		PNP	2N6287	
V _{CBO}	Collector-base voltage $(I_E = 0)$		100	V
V _{CEO}	Collector-emitter voltage $(I_B = 0)$		100	v
V _{EBO}	Emitter-base voltage $(I_{\rm C} = 0)$		5	Ý
I _C	Collector current		20	Α
I _{CM}	Collector peak current (t _P < 5 ms)		40	А
I _B	Base current		0.5	А
P _{tot}	P_{tot} Total dissipation at $T_C = 25 \text{ °C}$		160	W
T _{stg}	Storage temperature		-65 to 200	°C
Т _Ј	Max. operating junction temperature	9	200	°C

Table 2.Absolute maximum ratings

For PNP type voltage and current values are negative

Table 3. Thermal data

	Symbol	Parameter		Value	Unit
	R _{thj-case}	Thermal resistance junction-case	Max	1.09	°C/W
obsole	teP				

Electrical characteristics 2

(T_{case} = 25 °C; unless otherwise specified)

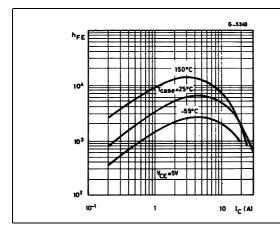
Table 4.	Electrical characteristics	
Symbol	Baramotor	Test

Symbol	Parameter	Test conditions	Min.	Тур.	Max.	Unit
ICEV	Collector cut-off current (V _{BE} = -1.5 V)	V _{CE} = 100 V V _{CE} = 100 V T _c = 150 °C			0.5 5	mA mA
I _{CEO}	Collector cut-off current $(I_B = 0)$	V _{CE} = 50 V			1	mA
I _{EBO}	Emitter cut-off current (I _C = 0)	V _{EB} = 5 V		. (2	mA
V _{CEO(sus)} ⁽¹⁾	Collector-emitter sustaining voltage $(I_B = 0)$	I _C = 100 mA	100	90		V
V _{CE(sat)} ⁽¹⁾	Collector-emitter saturation voltage	$I_{C} = 10 \text{ A}$ $I_{B} = 40 \text{ mA}$ $I_{C} = 20 \text{ A}$ $I_{B} = 200 \text{ mA}$			2 3	V V
V _{BE(sat)} ⁽¹⁾	Base-emitter saturation voltage	$I_{\rm C} = 20 \text{ A}$ $I_{\rm B} = 200 \text{ mA}$			4	V
V _{BE} ⁽¹⁾	Base-emitter voltage	I _C = 10 A V _{CE} = 3 V			2.8	V
h _{FE} ⁽¹⁾	DC current gain	$ I_{C} = 10 A V_{CE} = 3 V I_{C} = 20 A V_{CE} = 3 V $	750 100		18000	
h _{fe}	Small signal current gain	I _C = 10 A V _{CE} = 3 V f = 1 kHz	300			
C _{CBO}	Collector-base capacitance (I _E = 0)	V _{CB} = 10 V f = 100 kHz for 2N6284 for 2N6287			400 600	pF pF
	ation = 300 µs, duty cycle ≤1.5 oltage and current values are i			_		

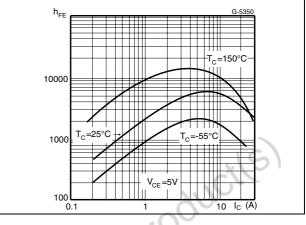
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2.1 Electrical characteristics (curves)

Figure 2. DC current gain (NPN type)







DC current gain (PNP type)



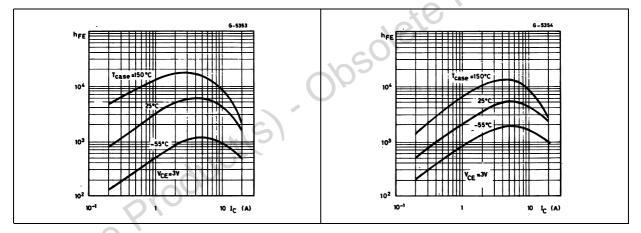
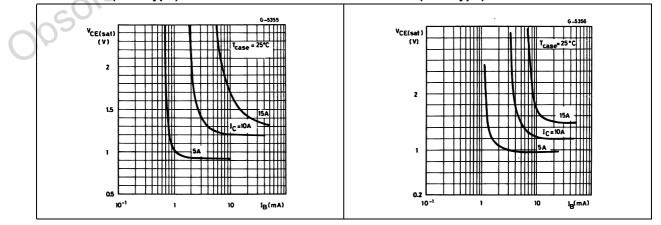


Figure 3.

Figure 6. Collector-emitter saturation voltage Figure 7. Collector-emitter saturation voltage (PNP type)



3 Package mechanical data

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obsolete Product(s). Obsolete Product(s)

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4 Revision history

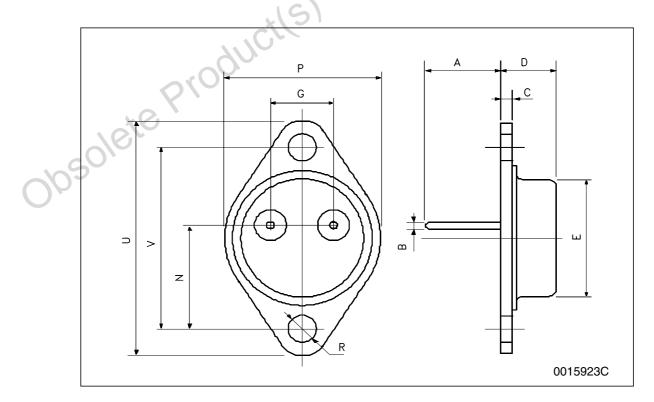
Table 5.Document revision history

Date	Revision	Changes
02-Mar-2000	2	
26-Jan-2009	3	Added paragraph 2.1

obsolete Product(s). Obsolete Product(s)



	TO-3 mechanical data				
DIM.		mm.			
Divi.	min.	typ	max.		
А	11.00		13.10		
В	0.97		1.15		
С	1.50		1.65		
D	8.32		8.92		
E	19.00		20.00		
G	10.70		011.10		
Ν	16.50		17.20		
Р	25.00	10th	26.00		
R	4.00	colo	4.09		
U	38.50	03	39.30		
V	30.00		30.30		



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