



2N6284
2N6287

COMPLEMENTARY SILICON POWER DARLINGTON TRANSISTORS

- STMicroelectronics PREFERRED SALESTYPES
- COMPLEMENTARY PNP - NPN DEVICES
- INTEGRATED ANTIPARALLEL COLLECTOR-EMITTER DIODE

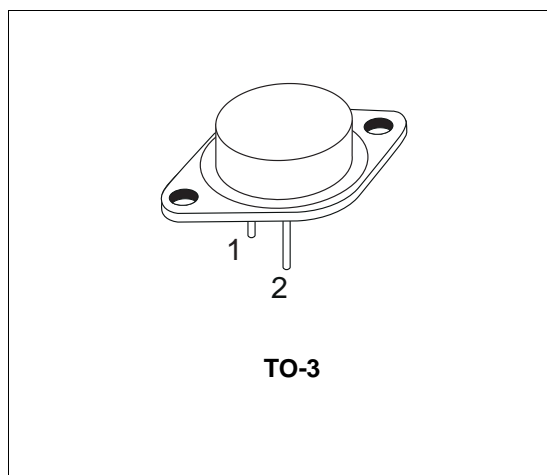
APPLICATIONS

- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

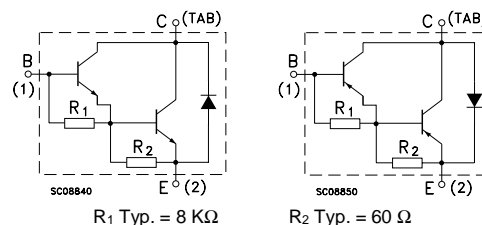
DESCRIPTION

The 2N6284 is a silicon epitaxial-base NPN power transistor in monolithic Darlington configuration mounted in Jedec TO-3 metal case. It is intended for general purpose amplifier and low frequency switching applications.

The complementary PNP types is 2N6287.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		NPN	2N6284	
		PNP	2N6287	
V _{CB0}	Collector-Base Voltage (I _E = 0)		100	V
V _{CEO}	Collector-Emitter Voltage (I _B = 0)		100	V
V _{EBO}	Emitter-Base Voltage (I _C = 0)		5	V
I _C	Collector Current		20	A
I _{CM}	Collector Peak Current		40	A
I _B	Base Current		0.5	A
P _{tot}	Total Dissipation at T _c ≤ 25 °C		160	W
T _{stg}	Storage Temperature		-65 to 200	°C
T _j	Max. Operating Junction Temperature		200	°C

For PNP types voltage and current values are negative.

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THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	1.09	°C/W
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25\text{ °C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEV}	Collector Cut-off Current ($V_{BE} = -1.5V$)	$V_{CE} = \text{rated } V_{CE0}$ $V_{CE} = \text{rated } V_{CE0} \quad T_c = 150\text{ °C}$			0.5 5	mA mA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = 50\text{ V}$			1	mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5\text{ V}$			2	mA
$V_{CE0(sus)*}$	Collector-Emitter Sustaining Voltage	$I_C = 100\text{ mA}$	100			V
$V_{CE(sat)*}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{ A} \quad I_B = 40\text{ mA}$ $I_C = 20\text{ A} \quad I_B = 200\text{ mA}$			2 3	V V
$V_{BE(sat)*}$	Base-Emitter Saturation Voltage	$I_C = 20\text{ A} \quad I_B = 200\text{ mA}$			4	V
V_{BE*}	Base-Emitter Voltage	$I_C = 10\text{ A} \quad V_{CE} = 3\text{ V}$			2.8	V
h_{FE*}	DC Current Gain	$I_C = 10\text{ A} \quad V_{CE} = 3\text{ V}$ $I_C = 20\text{ A} \quad V_{CE} = 3\text{ V}$	750 100		18000	
h_{fe}	Small Signal Current Gain	$I_C = 3\text{ A} \quad V_{CE} = 10\text{ V} \quad f = 1\text{ KHz}$	300			
C_{CBO}	Collector Base Capacitance	$I_E = 0 \quad V_{CB} = 10\text{ V} \quad f = 100\text{ KHz}$ for NPN types for PNP types			400 600	pF pF

* Pulsed: Pulse duration = 300 μ s, duty cycle 1.5 %

TO-3 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	11.00		13.10	0.433		0.516
B	0.97		1.15	0.038		0.045
C	1.50		1.65	0.059		0.065
D	8.32		8.92	0.327		0.351
E	19.00		20.00	0.748		0.787
G	10.70		11.10	0.421		0.437
N	16.50		17.20	0.649		0.677
P	25.00		26.00	0.984		1.023
R	4.00		4.09	0.157		0.161
U	38.50		39.30	1.515		1.547
V	30.00		30.30	1.187		1.193

