

COMPLEMENTARY SILICON POWER DARLINGTON TRANSISTORS

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

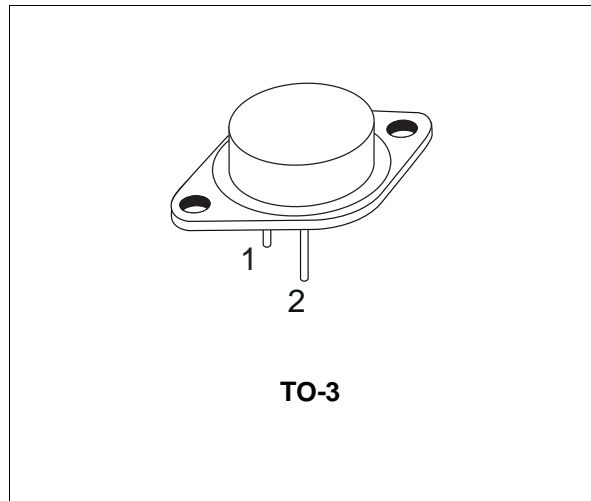
APPLICATIONS

- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

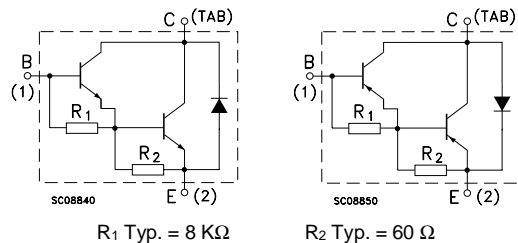
DESCRIPTION

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	PNP	
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	2N6284		V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	2N6287		
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	100		V
I_C	Collector Current	5		A
I_{CM}	Collector Peak Current	20		A
I_B	Base Current	40		A
P_{tot}	Total Dissipation at $T_c \leq 25^\circ\text{C}$	0.5		W
T_{stg}	Storage Temperature	160		$^\circ\text{C}$
T_j	Max. Operating Junction Temperature	-65 to 200		$^\circ\text{C}$

For PNP types voltage and current values are negative.

THERMAL DATA

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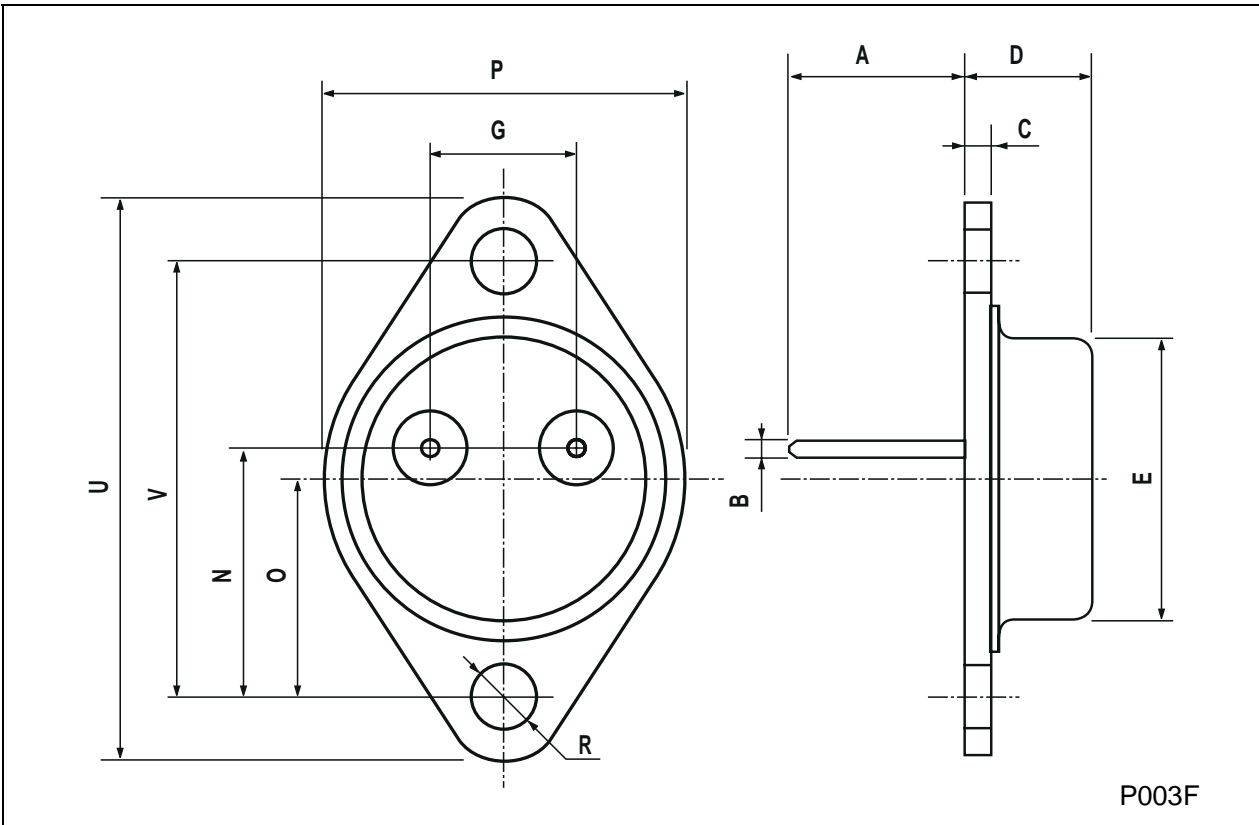
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CEV}	Collector Cut-off Current (V _{BE} = -1.5V)	V _{CE} = rated V _{CEO} V _{CE} = rated V _{CEO} 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)*}	Collector-Emitter Sustaining Voltage	I _C = 100 mA	100			V
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = 10 A I _B = 40 mA I _C = 20 A I _B = 200 mA			2 3	V V
V _{BE(sat)*}	Base-Emitter Saturation Voltage	I _C = 20 A I _B = 200 mA			4	V
V _{BE*}	Base-Emitter Voltage	I _C = 10 A V _{CE} = 3 V			2.8	V
h _{FE*}	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 = 3 A V _{CE} = 10 V f = 1KHz	300			
C _{CBO}	Collector Base Capacitance	I _E = 0 V _{CB} = 10 V f = 100KHz for NPN types for PNP types			400 600	pF pF

* Pulsed: Pulse duration = 300 μs, 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



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