

HIGH GAIN LOW VOLTAGE PNP POWER TRANSISTOR

- VERY LOW COLLECTOR TO EMITTER SATURATION VOLTAGE
- DC CURRENT GAIN > 100 (h_{FE})
- 3 A CONTINUOUS COLLECTOR CURRENT (I_C)
- SURFACE-MOUNTING SOT23-6L PACKAGE IN TAPE & REEL

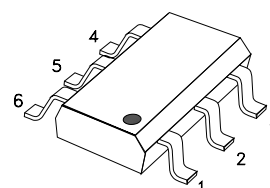
APPLICATIONS

- POWER MANAGEMENT IN PORTABLE EQUIPMENTS
- SWITCHING REGULATOR IN BATTERY CHARGER APPLICATIONS

DESCRIPTION

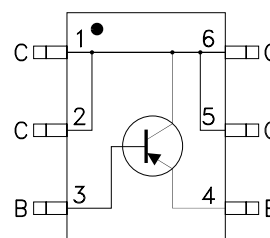
The device is manufactured in low voltage PNP Planar Technology by using a "Base Island" layout.

The resulting Transistor shows exceptional high gain performance coupled with very low saturation voltage.



SOT23-6L

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	-30	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	-30	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	-6	V
I_C	Collector Current	-3	A
I_{CM}	Collector Peak Current	-6	A
I_B	Base Current	-0.2	A
P_{tot}	Total Dissipation at $T_C = 25^\circ\text{C}$	1.2	W
T_{stg}	Storage Temperature	-65 to 150	$^\circ\text{C}$
T_j	Max. Operating Junction Temperature	150	$^\circ\text{C}$

THERMAL DATA

$R_{thj-amb}^{(1)}$	Thermal Resistance Junction-ambient	Max	104.2	$^{\circ}\text{C}/\text{W}$
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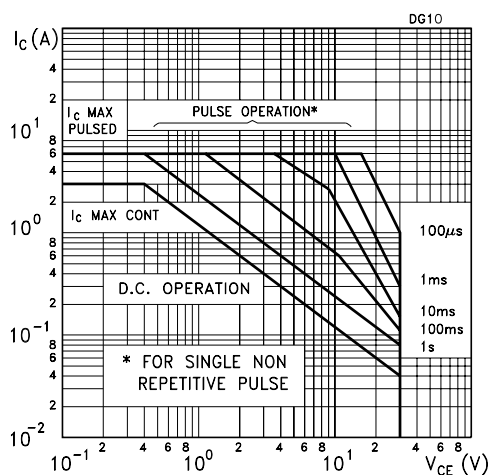
(1) Package mounted on FR4 pcb 25mm x 25mm.

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

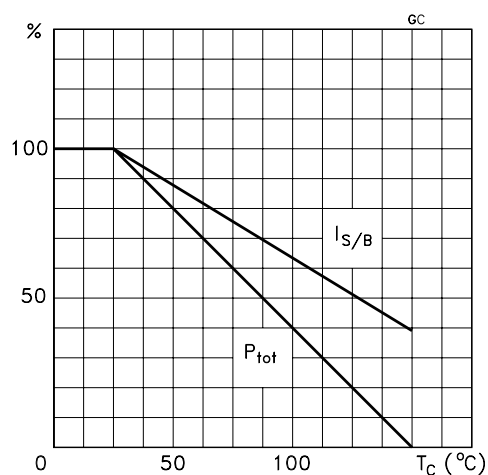
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	$V_{CB} = -30\text{ V}$ $V_{CB} = -30\text{ V}$ $T_C = 125^{\circ}\text{C}$			-0.5 -20	μA μA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = -3\text{V}$			-0.5	μA
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage ($I_B = 0$)	$I_C = -0.1\text{mA}$	-30			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = -2\text{ A}$ $I_B = -200\text{ mA}$			-0.5	V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C = -2\text{ A}$ $I_B = -200\text{ mA}$			-2	V
$V_{BE(ON)}^*$	Base-Emitter Voltage	$I_C = -0.5\text{ A}$ $V_{CE} = -2\text{ V}$		-0.71	-1.1	V
h_{FE}^*	DC Current Gain	$I_C = -1\text{ A}$ $V_{CE} = -2\text{ V}$	100			

* Pulsed: Pulse duration = 300 μs , duty cycle 1.5 %.

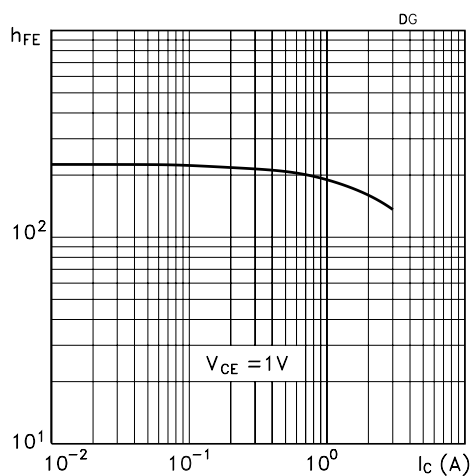
Safe Operating Area



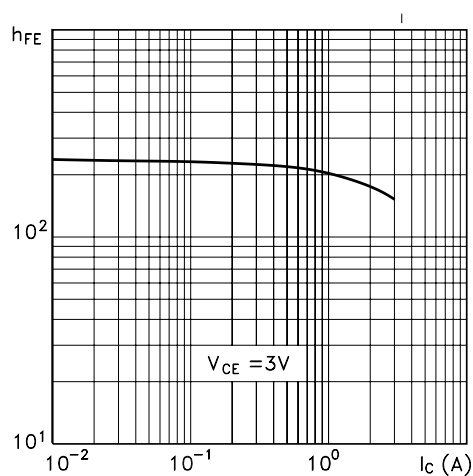
Derating Curve



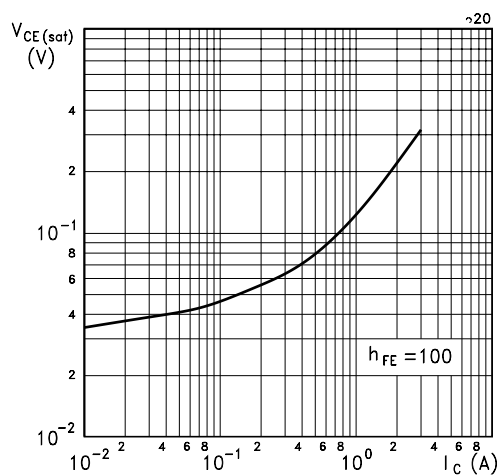
DC Current Gain



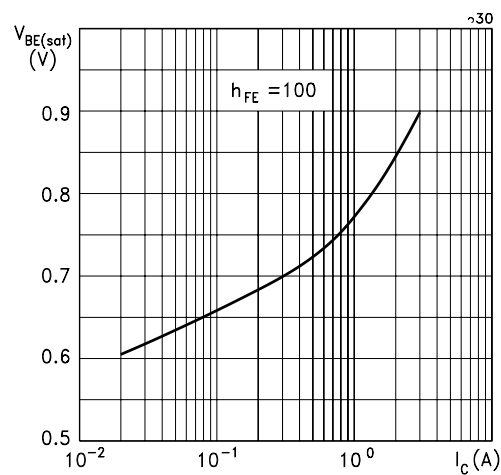
DC Current Gain



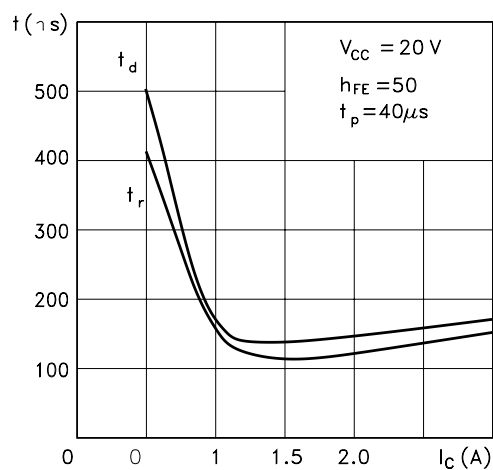
Collector-Emitter Saturation Voltage



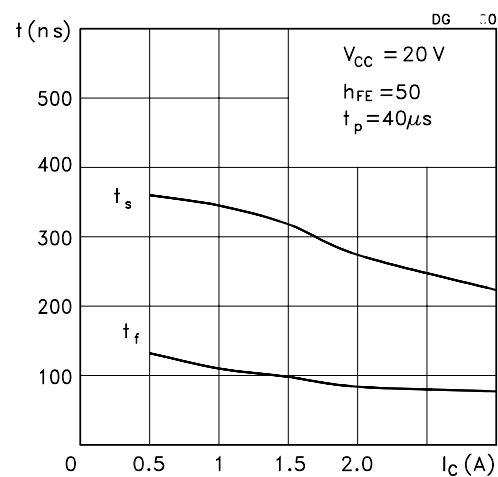
Base-Emitter Saturation Voltage



Switching Times Resistive Load



Switching Times Resistive Load



SOT23-6 PACKAGE INFORMATION

