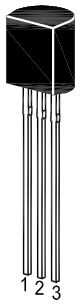
2SC1627

NPN Silicon Epitaxial Planar Transistor

for driver stage amplifier applications, Voltage amplifier applications.

Driver stage application of 20 to 50 W amplifiers



1. Emitter 2. Collector 3. Base
TO-92 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	80	V
Collector Emitter Voltage	V_{CEO}	80	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	300	mA
Base Current	I_B	60	mA
Collector Power Dissipation	P_C	600	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 125	°C

Characteristics at T_a = 25 °C

Parameter			Symbol	Min.	Typ.	Max.	Unit
DC Current Gain							
at V_{CE} = 2 V, I_C = 50 mA	Current Gain Group	O	h_{FE}	70	-	140	-
		Y	h_{FE}	120	-	240	-
at V_{CE} = 2 V, I_C = 200 mA			h_{FE}	40	-	-	-
Collector Base Cutoff Current at V_{CB} = 50 V			I_{CBO}	-	-	0.1	µA
Emitter Base Cutoff Current at V_{EB} = 5 V			I_{EBO}	-	-	0.1	µA
Collector Emitter Breakdown Voltage at I_C = 5 mA			$V_{(BR)CEO}$	80	-	-	V
Collector Emitter Saturation Voltage at I_C = 200 mA, I_B = 10 mA			$V_{CE(sat)}$	-	-	0.5	V
Base Emitter Voltage at V_{CE} = 2 V, I_C = 5 mA,			V_{BE}	0.55	-	0.8	V
Gain Bandwidth Product at V_{CE} = 10 V, I_C = 10 mA			f_T	-	100	-	MHz
Output Capacitance at V_{CB} = 10 V, f = 1 MHz			C_{ob}	-	10	-	pF

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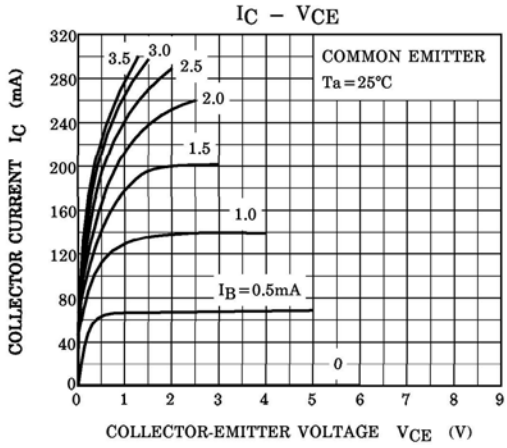
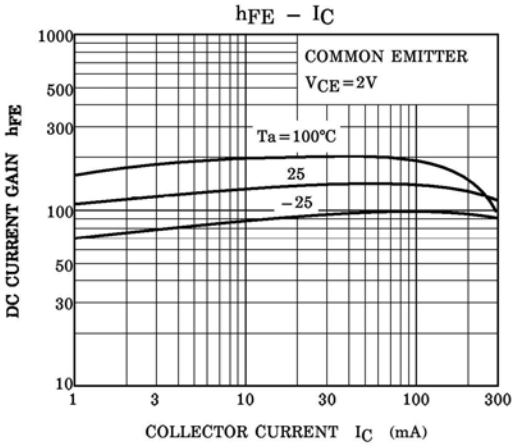
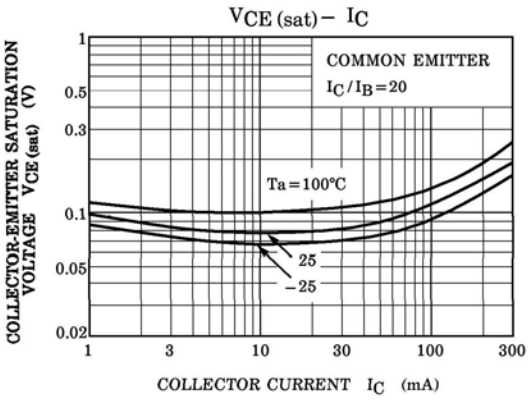
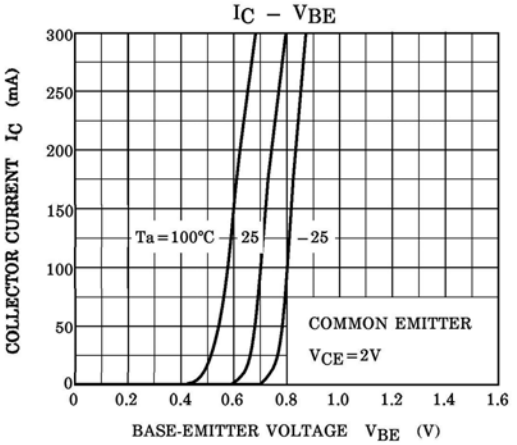
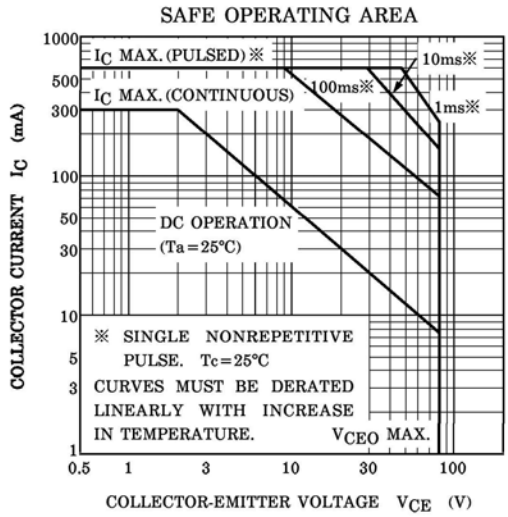
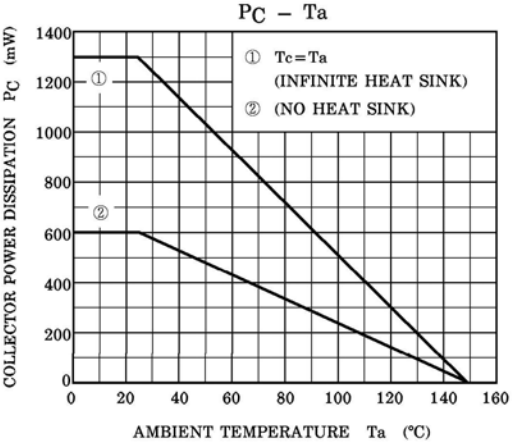

I_C – V_{CE}
COMMON EMITTER
Ta = 25°C
3.5
3.0
2.5
2.0
1.5
1.0
I_B = 0.5mA
0
COLLECTOR CURRENT I_C (mA)
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)


h_{FE} – I_C
COMMON EMITTER
V_{CE} = 2V
Ta = 100°C
25
−25
DC CURRENT GAIN h_{FE}
COLLECTOR CURRENT I_C (mA)


$V_{CE(sat)}$ – I_C
COMMON EMITTER
I_C / I_B = 20
Ta = 100°C
25
−25
COLLECTOR-EMITTER SATURATION VOLTAGE $V_{CE(sat)}$ (V)
COLLECTOR CURRENT I_C (mA)


I_C – V_{BE}
Ta = 100°C
25
−25
COMMON EMITTER
V_{CE} = 2V
COLLECTOR CURRENT I_C (mA)
BASE-EMITTER VOLTAGE V_{BE} (V)


SAFE OPERATING AREA
I_C MAX. (PULSED) ※
I_C MAX. (CONTINUOUS)
10ms※
100ms※
1ms※
DC OPERATION
(Ta = 25°C)
※ SINGLE NONREPETITIVE PULSE. Tc = 25°C
CURVES MUST BE DERATED LINEARLY WITH INCREASE IN TEMPERATURE.
V_{CEO} MAX.
COLLECTOR CURRENT I_C (mA)
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)


P_C – Ta
① Tc = Ta
(INFINITE HEAT SINK)
② (NO HEAT SINK)
COLLECTOR POWER DISSIPATION P_C (mW)
AMBIENT TEMPERATURE Ta (°C)