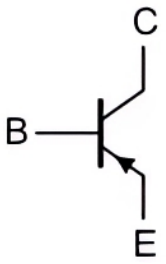
Features

- -5A,-60V Middle Power Transistor
- Suitable for Middle Power Driver
- Complementary NPN Types:2SC5103
- Low Collector-emitter saturation voltage

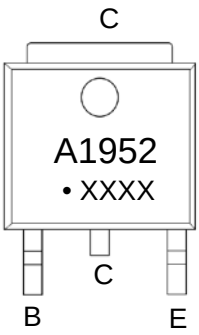
Applications

- Middle Power Driver
- LED Driver
- Power Supply

TO-252-2L top view



Schematic diagram



Marking and pin assignment

Pb-Free RoHS Halogen-Free

Maximum Ratings(Ta=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-100	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-5	A
$P_C^{(1)}$	Collector Power Dissipation	1	W
$R_{\theta JA}$	Junction Temperature	125	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

(1). Mounted on a substrate

Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
2SA1952	TO-252-2L	A1952	2,500	5,000	35,000	13"reel

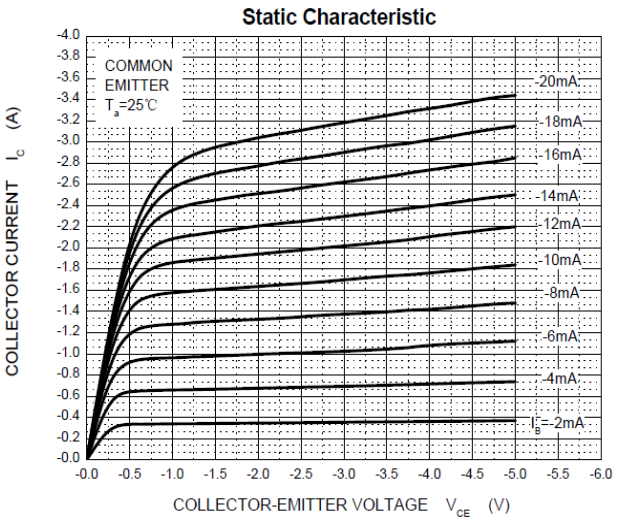
Electrical Characteristics (T_a=25℃ unless otherwise specified)

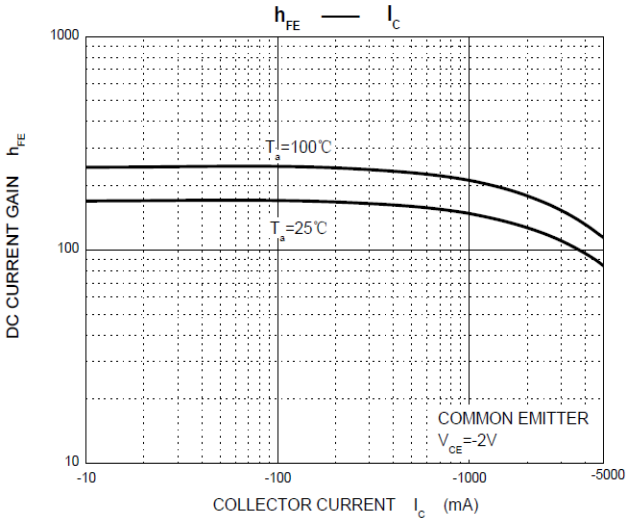
Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=-50μA,I_E=0	-100	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=-1mA, I_B=0	-60	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=-50μA,I_C=0	-5	--	--	V
I_{CBO}	Collector cut-off current	V_{CB}=-100V,I_E=0	--	--	-10	μA
I_{EBO}	Emitter cut-off current	V_{EB}=-5V , I_C=0	--	--	-10	μA
$H_{FE(1)}$*	DC current gain	V_{CE}=-2V, I_C=-1A	120	--	270	
$H_{FE(2)}$*		V_{CE}=-2V, I_C=-3A	40	--	--	
$V_{CE(sat)}$*	Collector-emitter saturation voltage	I_C=-3A,I_B=-0.15A	--	--	-0.3	V
		I_C=-4A,I_B=-0.2A	--	--	-0.5	V
$V_{BE(sat)}$*	Base-emitter saturation voltage	I_C=-3A,I_B=-0.15A	--	--	-1.2	V
		I_C=-4A,I_B=-0.2A	--	--	-1.5	V
C_{ob}	Collector output capacitance	V_{CB}=-10V,I_E=0, f=1MHz	--	130	--	pF
f_T*	Transition frequency	V_{CE}=-10V, I_C=-0.5A, f=30MHz	--	80	--	MHz
t_{on}	Turn-on time	V_{CC}=-30V, I_C=-3A,I_{B1}=-I_{B2}=150mA	--	--	0.3	μs
t_f	Fall time		--	--	0.3	μs
t_s	Storage time		--	--	1.5	μs

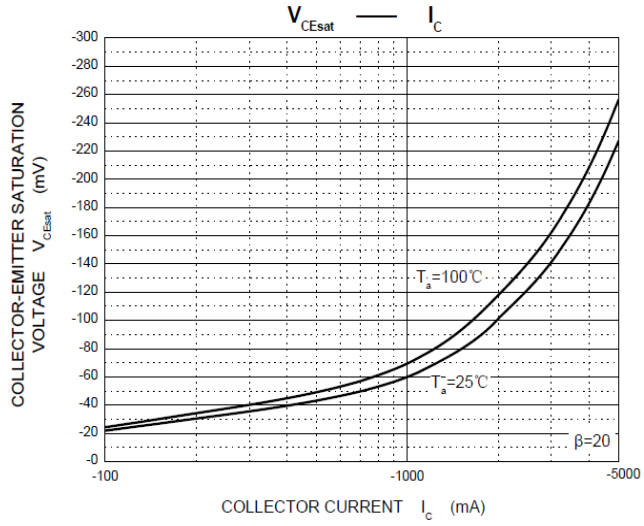
Notes:

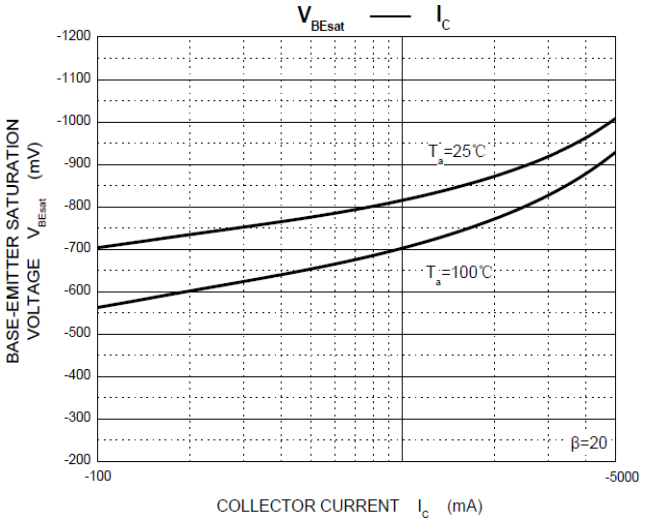
1. Pulse Test : Pulse Width≤300μs, duty cycle ≤2%.

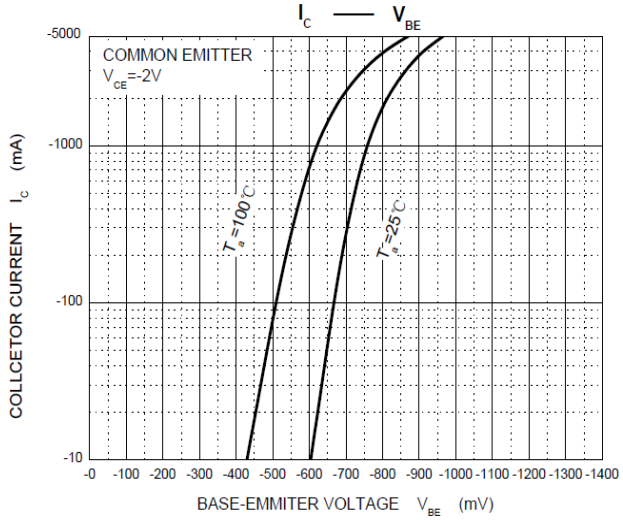
Typical Characteristics

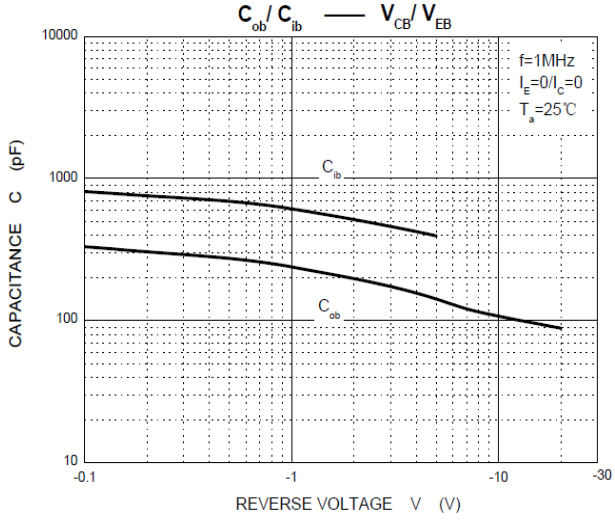


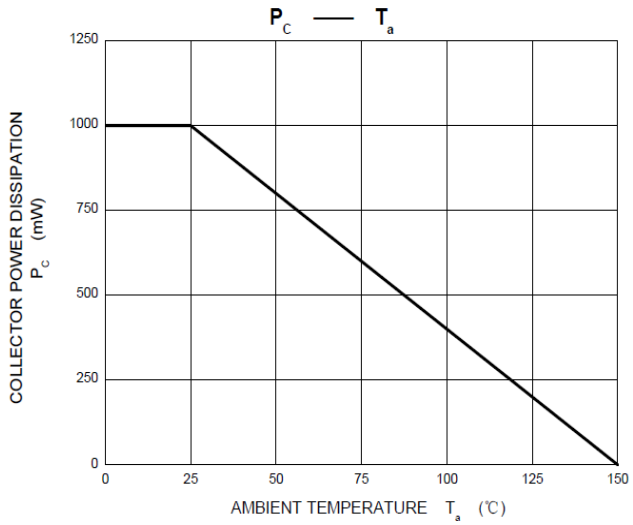




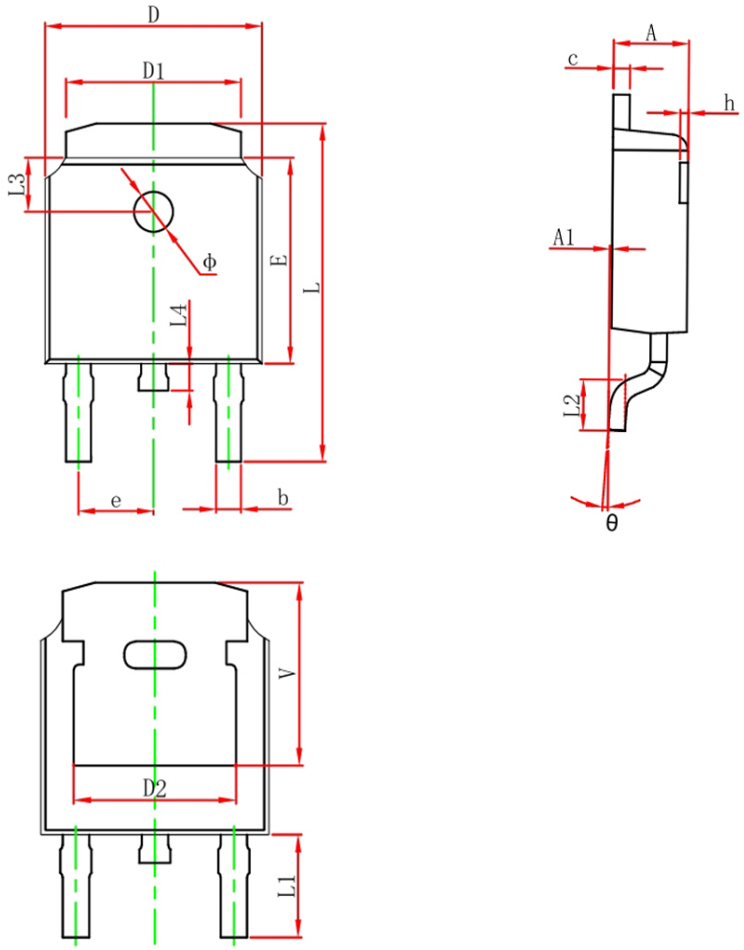








TO-252-2L Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.450	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.386	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	