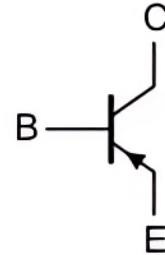


Features

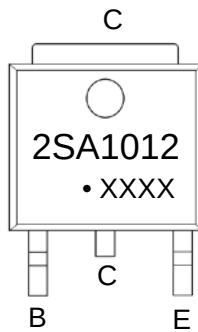
- High Current Switching Applications.
- Low Collector Saturation Voltage
- High Speed Switching Time



TO-252-2L top view



Schematic diagram



Marking and pin assignment



Pb-Free



Halogen-Free

Maximum Ratings(Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-5	A
P_C	Collector Power Dissipation	1.25	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	100	°C/W
T_J	Junction Temperature	150	°C
T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

Ordering Information (Example)

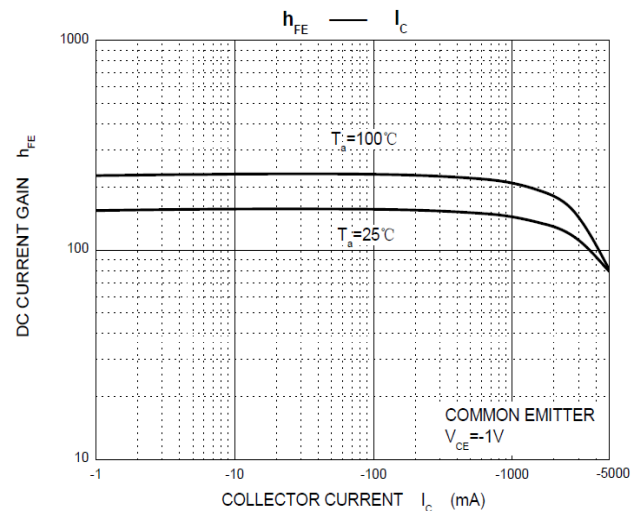
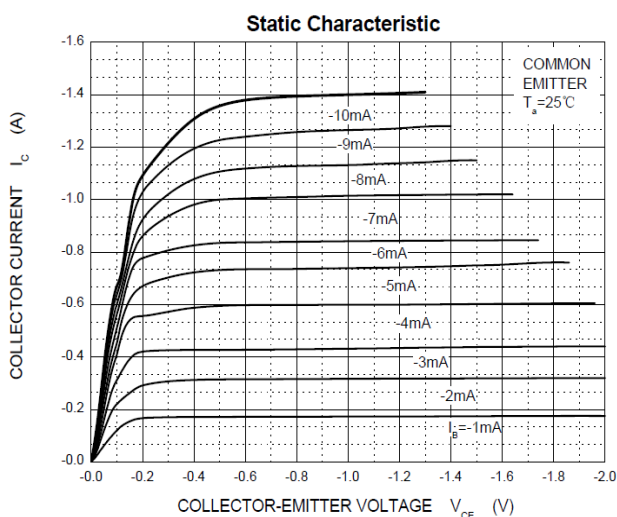
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
2SA1012	TO-252-2L	2SA1012	2,500	5,000	35,000	13"reel

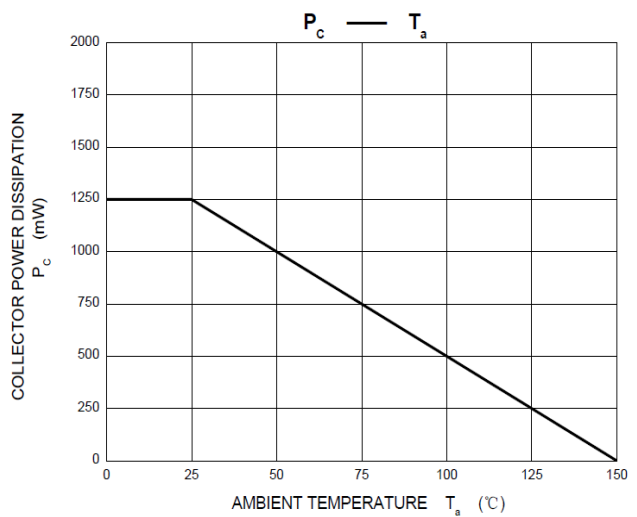
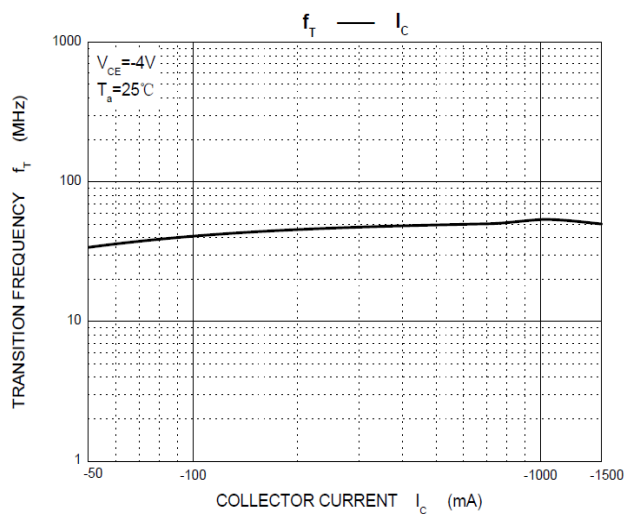
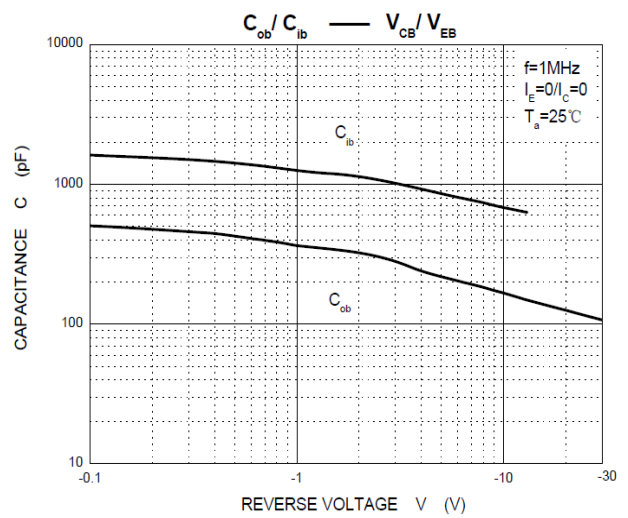
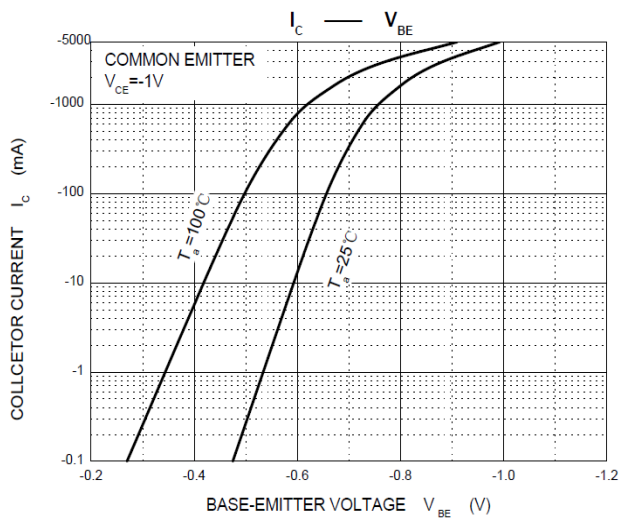
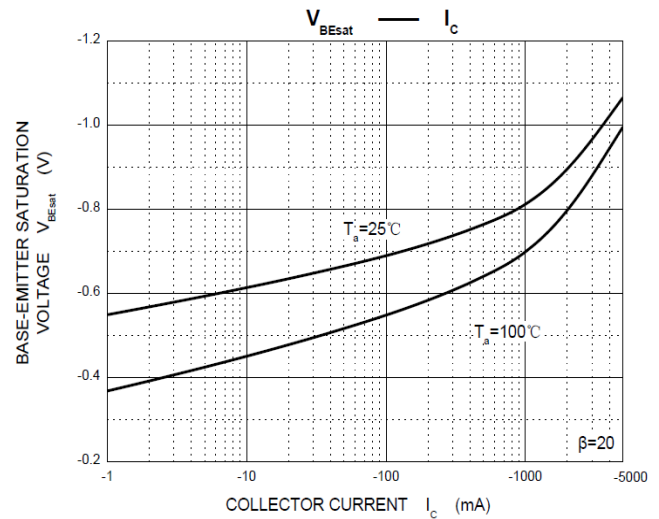
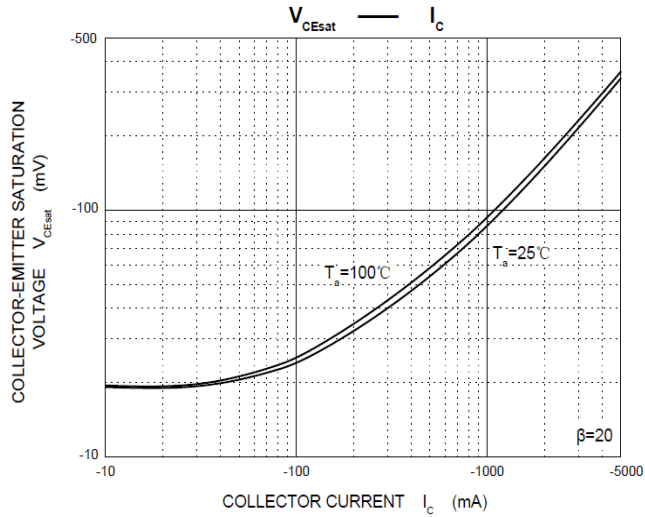
Electrical Characteristics (T_J=25°C unless otherwise noted)

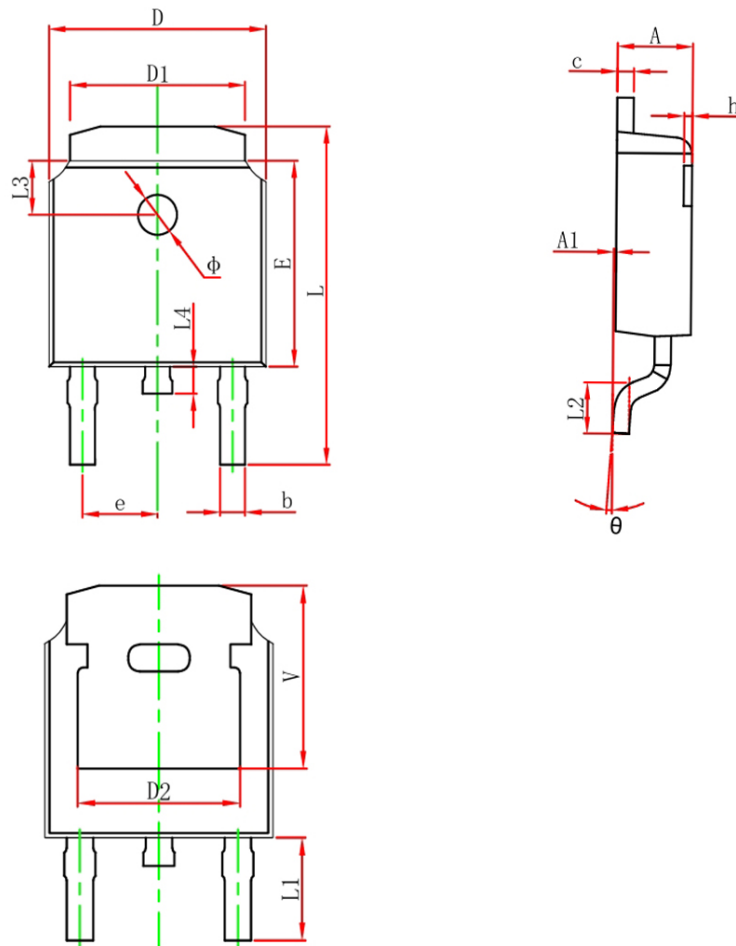
Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = -0.1mA, I_E = 0$	-60	--	--	V
$V_{(BR)CEO}^*$	Collector-emitter breakdown voltage	$I_C = -10mA, I_B = 0$	-50	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -100\mu A, I_C = 0$	-5	--	--	V
I_{CBO}	Collector cut-off current	$V_{CB} = -50V, I_E = 0$	--	--	-1	μA
I_{EBO}	Emitter cut-off current	$V_{EB} = -5V, I_C = 0$	--	--	-1	μA
$H_{FE(1)}$	DC current gain	$V_{CE} = -1V, I_C = -1A$	70	--	240	
$H_{FE(2)}^*$		$V_{CE} = -1V, I_C = -3A$	30	--	--	
$V_{CE(sat)}^*$	Collector-emitter saturation voltage	$I_C = -3A, I_B = -150mA$	--	--	-0.4	V
$V_{BE(sat)}^*$	Base-emitter saturation voltage	$I_C = -3A, I_B = -150mA$	--	--	-1.2	V
C_{ob}	Collector output capacitance	$V_{CB} = -10V, I_E = 0, f = 1MHz$	--	170	--	pF
f_T	Transition frequency	$V_{CE} = -4V, I_C = -1A$	--	60	--	MHz
t_{on}	Turn-on time	$V_{CC} = -30V, I_C = -3A,$ $I_{B1} = -I_{B2} = -0.15A$	--	0.1	--	μs
t_f	Fall time		--	0.1	--	
t_s	Storage time		--	1	--	

Classification Of h_{FE}

Rank	O	Y
Range	70-140	120-240

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.	