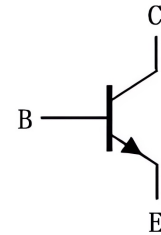


Features

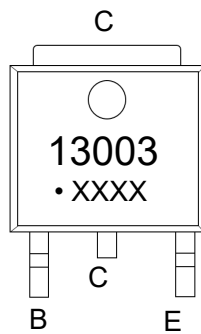
- Power Switching Applications



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	700	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current	1.5	A
P_C	Collector Power Dissipation	1.25	W
T_J, 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
3DD13003	TO-252-2L	13003	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	$I_C=1mA, I_E=0$	700	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=10mA, I_B=0$	400	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_C=1mA, I_C=0$	9	--	--	V
I_{CBO}	Collector cut-off current	$V_{CB}=700V, I_E=0$	--	--	1	mA
I_{CEO}	Collector cut-off current	$V_{CE}=400V, I_B=0$	--	--	0.5	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=9V, I_C=0$	--	--	1	mA
$H_{FE(1)}$	DC current gain	$V_{CE}=5V, I_C=0.5A$	20	--	40	
$H_{FE(2)}$		$V_{CE}=5V, I_C=1.5A$	5	--	--	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=1A, I_B=250mA$	--	--	0.6	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=1A, I_B=250mA$	--	--	1.2	V
V_{BE}	Base-emitter voltage	$I_E=2A$	--	--	3	V
f_T	Transition frequency	$V_{CE}=10V, I_C=100mA, f=1MHz$	5	--	--	MHz
t_f	Fall time	$I_C=1A, I_{B1}=-I_{B2}=0.2A, V_{CC}=100V$	--	--	0.5	μs
t_s	Storage time	$I_C=250mA$	2	--	4	μs

Classification Of hFE(1)

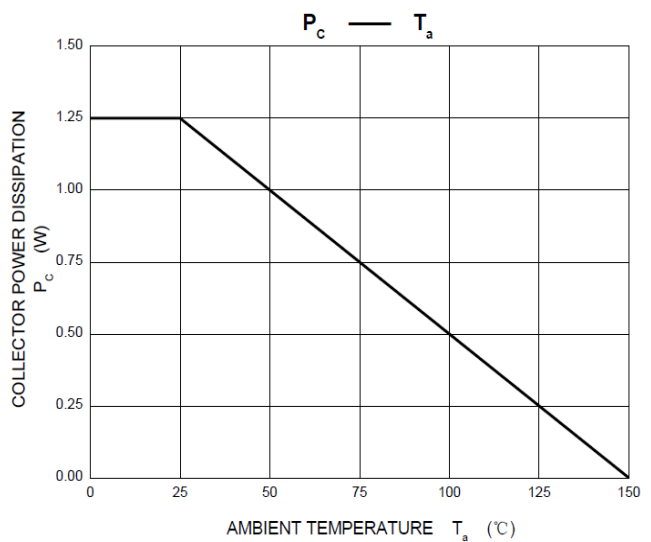
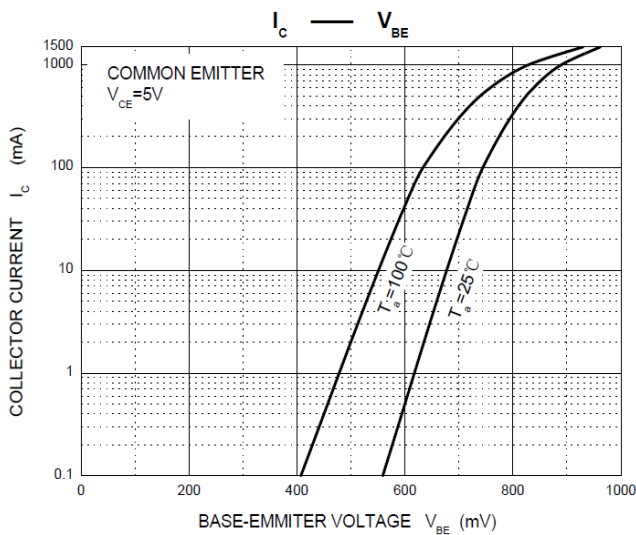
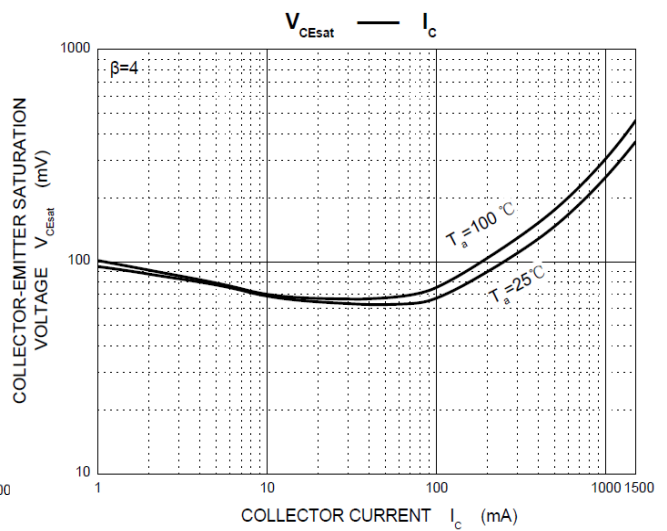
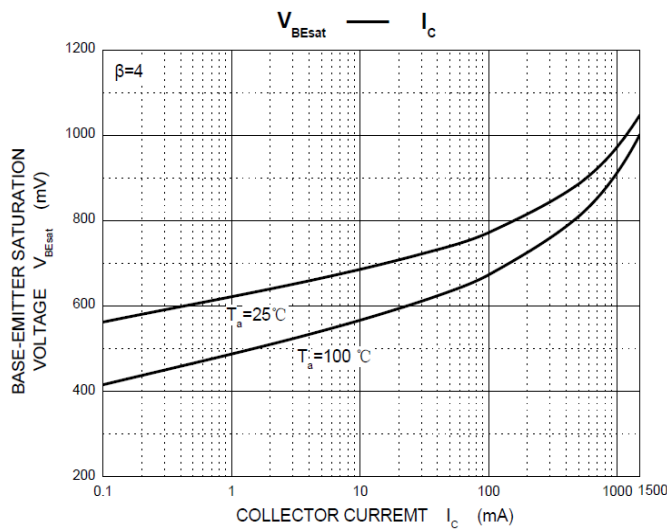
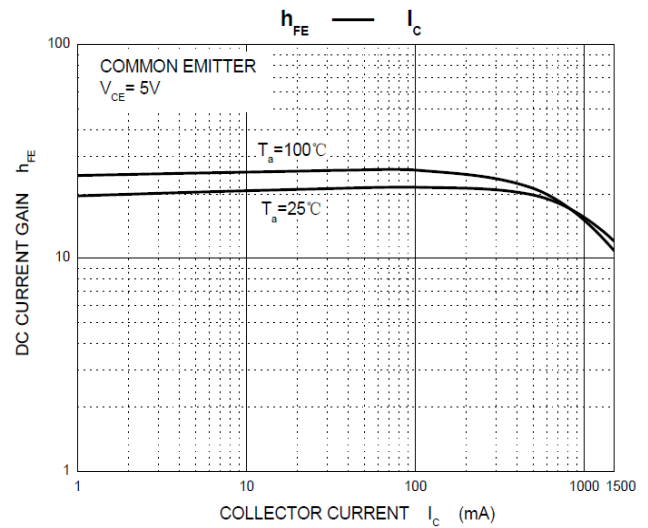
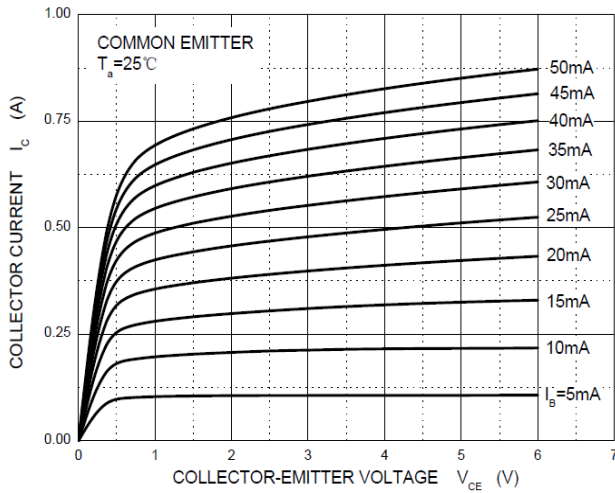
Range	20-30	30-40
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Classification Of t_s

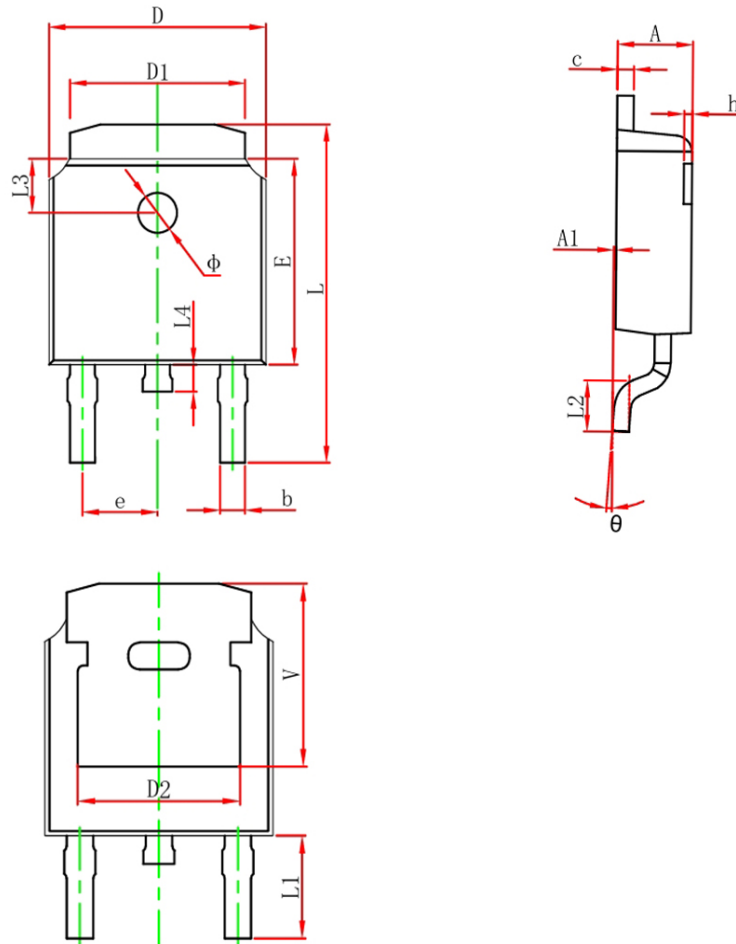
Rank	A	B
Range	2.0-3.0 (μs)	3.0-4.0(μs)

Typical Operating Characteristics

Static Characteristic



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.	