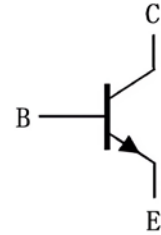


Features

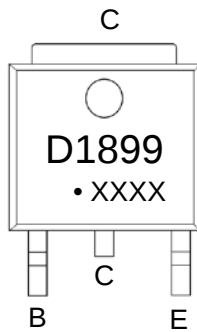
- Low $V_{CE(sat)}$.
- High Transition Frequency



TO-252-2L top view



Schematic diagram



Marking and pin assignment



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	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current	3	A
P_C	Collector Power Dissipation	1	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	125	°C/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
2SD1889	TO-252-2L	D1889	2,500	5,000	35,000	13"reel

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

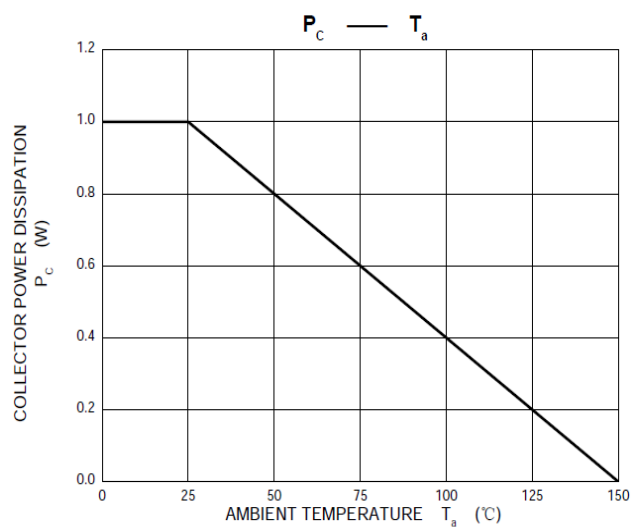
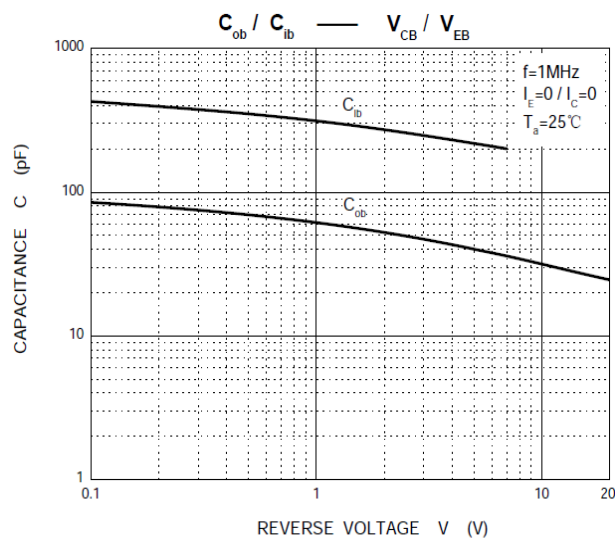
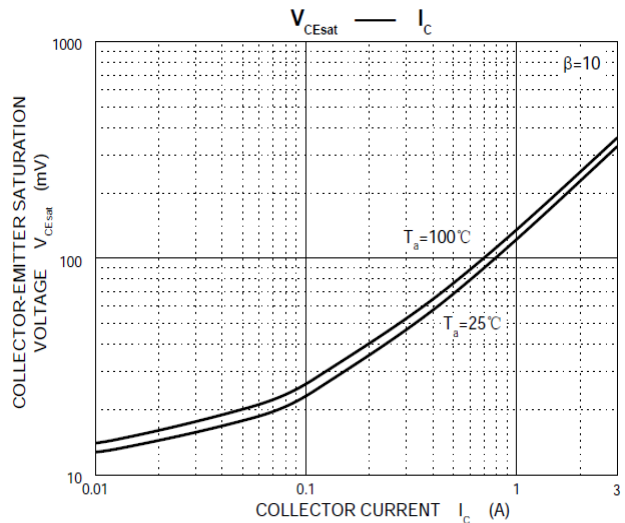
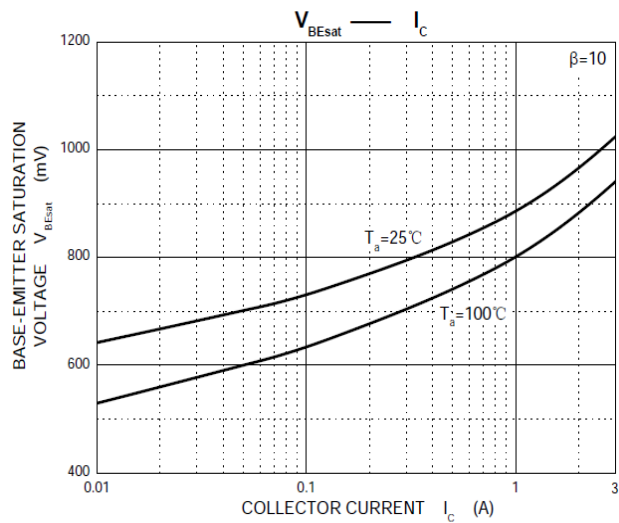
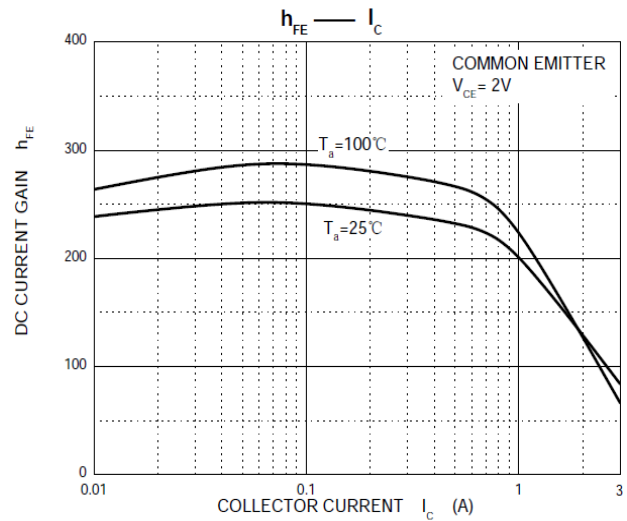
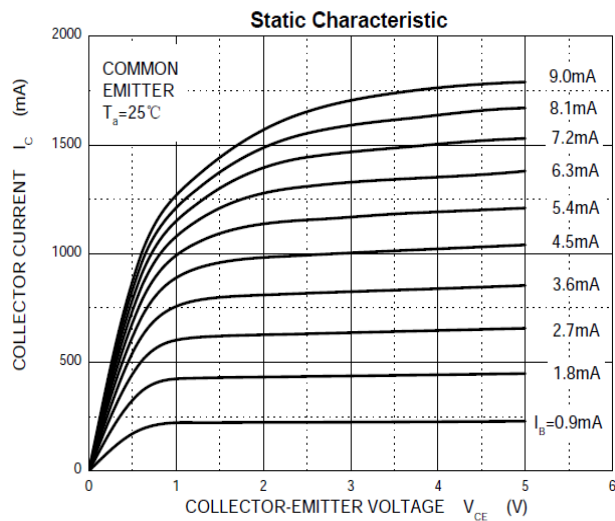
Symbol	Parameter	Condition	Min	Typ	Max	Unit
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =100μA, I _E =0	60	--	--	V
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =1mA, I _B =0	60	--	--	V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =100μA, I _C =0	7	--	--	V
I _{CBO}	Collector cut-off current	V _{CB} =60V, I _E =0	--	--	10	μA
I _{EBO}	Emitter cut-off current	V _{EB} =7V, I _C =0	--	--	10	μA
H _{FE(1)} *	DC current gain	V _{CE} =2V, I _C =0.2A	60	--	--	
H _{FE(2)} *		V _{CE} =2V, I _C =0.6A	100	--	400	
H _{FE(3)} *		V _{CE} =2V, I _C =2A	50	--	--	
V _{CE(sat)} *	Collector-emitter saturation voltage	I _C =1.5A, I _B =0.15A	--	--	0.25	V
V _{BE(sat)} *	Base-emitter saturation voltage	I _C =1.5A, I _B =0.15A	--	--	1.2	V
C _{ob}	Collector output capacitance	V _{CB} =10V, I _E =0, f=1MHz	--	30	--	pF
f _T	Transition frequency	V _{CE} =5V, I _C =1.5A	--	120	--	MHz

*Pulse test: pulse width ≤350μs, duty cycle ≤ 2.0%.

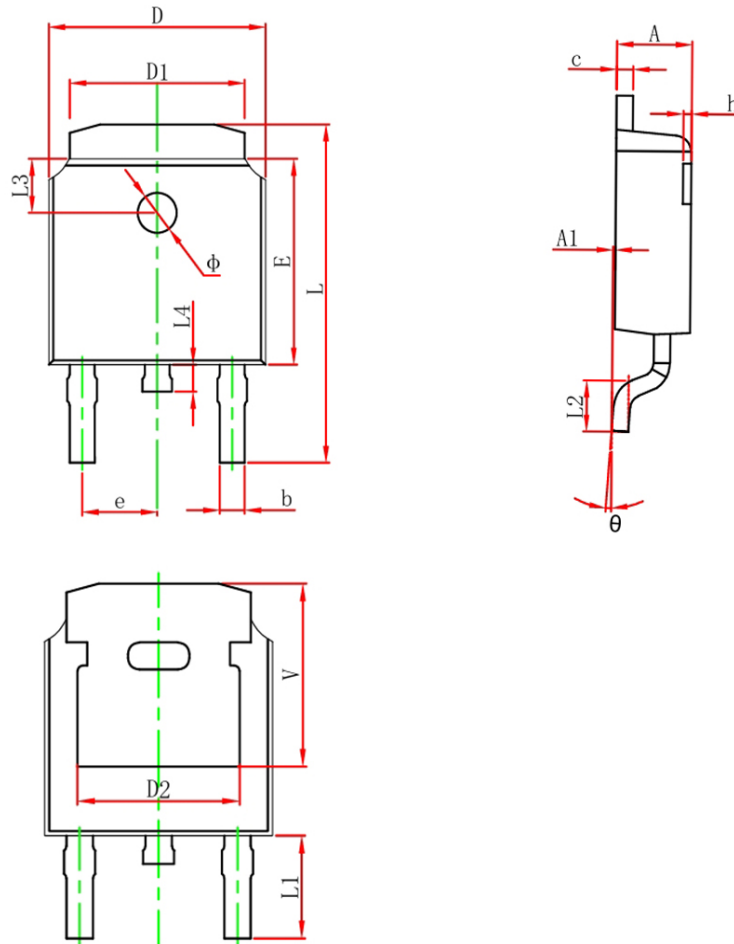
Classification Of h_{FE}

Rank	M	L	K
Range	100-200	160-320	200-400

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.	