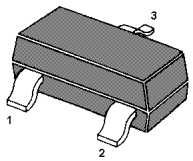
MMBTA13 NPN Silicon Epitaxial Planar Darlington Transistor



1.Base 2.Emitter 3.Collector
SOT-23 Plastic Package

FEATURES

Darlington Amplifier

Marking : K2D

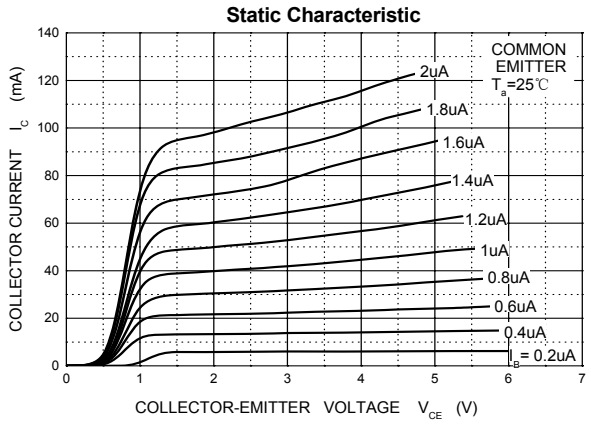
Absolute Maximum Ratings (T_a = 25 °C)

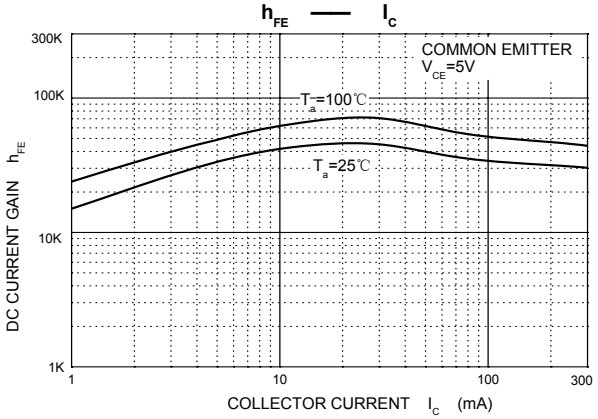
Parameter	Symbol	Value	Unit
Collector Emitter Voltage	V_{CES}	30	V
Collector Base Voltage	V_{CBO}	30	V
Emitter Base Voltage	V_{EBO}	10	V
Collector Current	I_C	500	mA
Total Device Dissipation Derate above 25 °C	P_{tot}	300 2.8	mW mW/ °C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	-55 to +150	°C

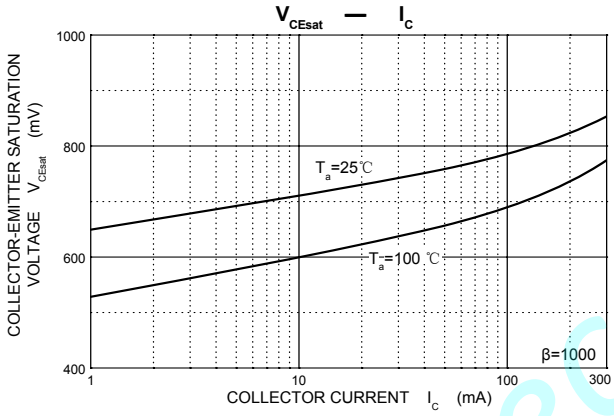
Characteristics at T_{amb}=25 °C

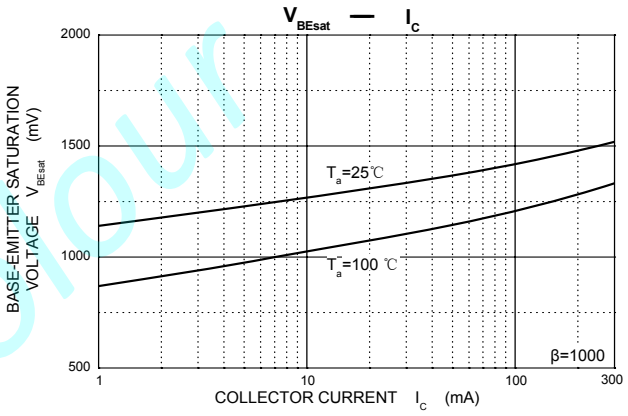
Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at I_C=10mA, V_{CE}=5V at I_C=100mA, V_{CE}=5V	 h_{FE} h_{FE}	 5000 10000	 - -	 - -
Collector Cutoff Current at V_{CB}=30V	I_{CBO}	-	0.1	μA
Emitter Cutoff Current at V_{EB}=10V	I_{EBO}	-	0.1	μA
Collector Emitter Breakdown Voltage at I_C=100μA	$V_{(BR)CES}$	30	-	V
Collector Saturation Voltage at I_C=100mA, I_B=0.1mA	$V_{CE(sat)}$	-	1.5	V
Base On Voltage at I_C=100mA, V_{CE}=5V	$V_{BE(on)}$	-	2	V
Current Gain – Bandwidth Product at I_C=10mA, V_{CE}=10V, f=100MHz	f_T	125	-	MHz

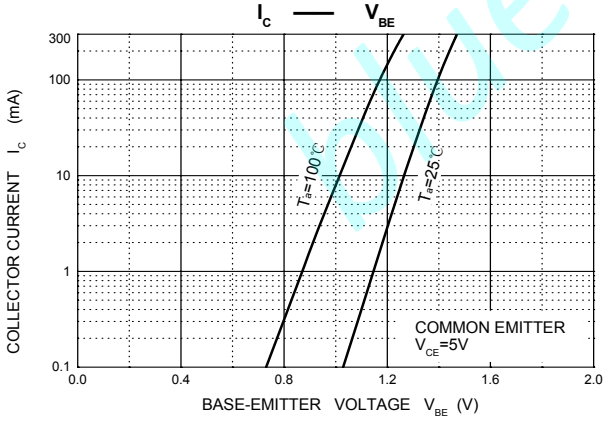
Typical Characteristics

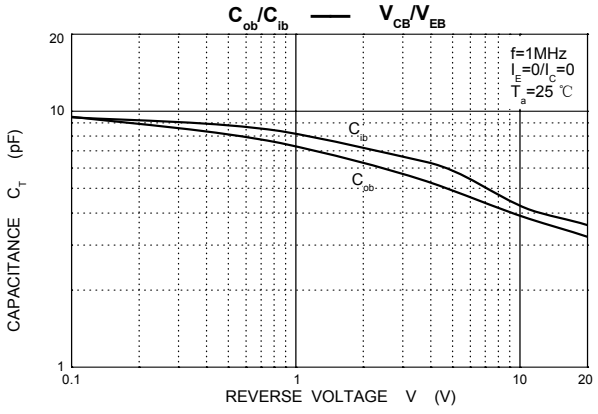


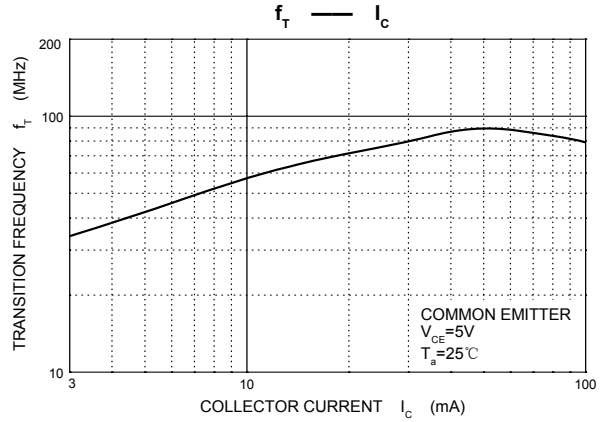


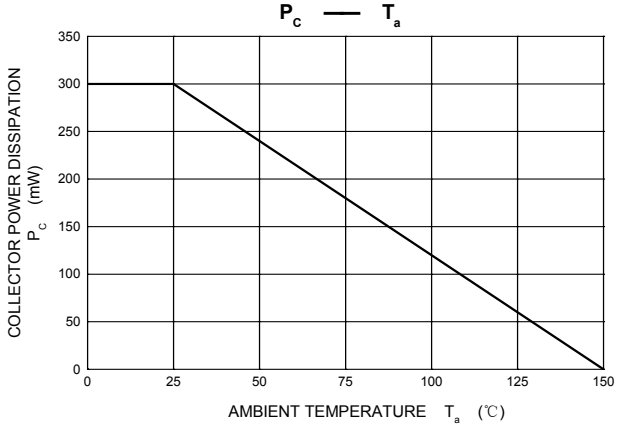






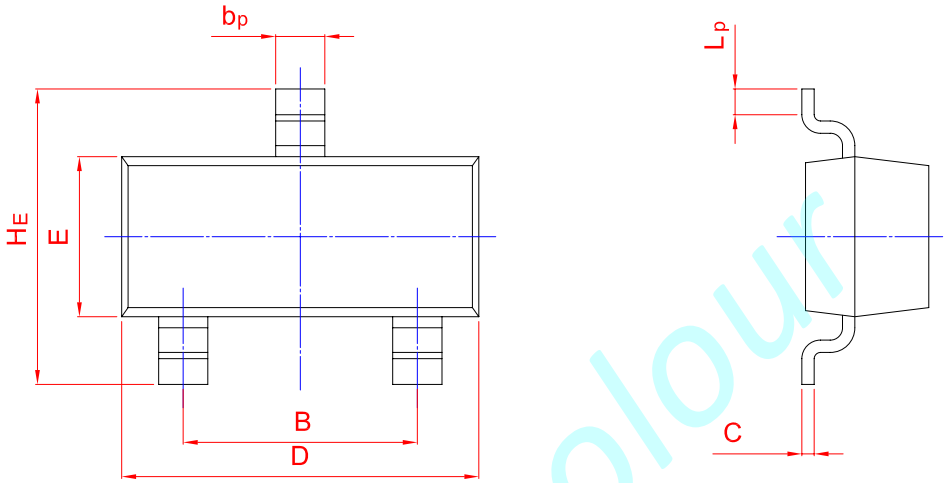






PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-23**



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20