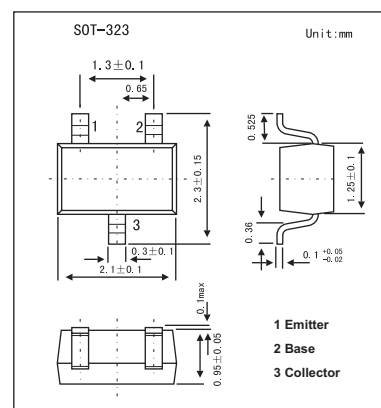
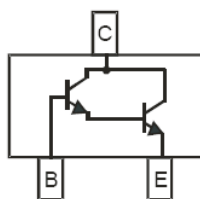


NPN Surface Mount Darlington Transistor MMSTA13

■ Features

- Epitaxial Planar Die Construction
- Ideal for Medium Power Amplification and Switching
- High Current Gain



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	30	V
Collector-Emitter Voltage	V_{CE0}	30	V
Emitter-Base Voltage	V_{EB0}	10	V
Collector Current	I_C	300	mA
Power Dissipation	P_d	200	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Operating and Storage and Temperature Range	T_j, T_{STG}	-55 to +150	$^\circ\text{C}$

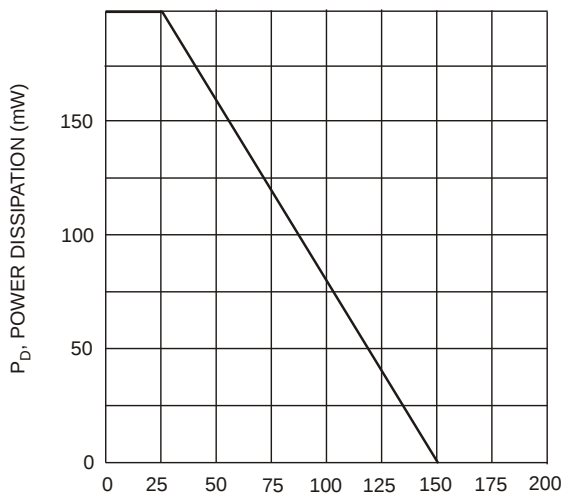
■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V_{CB0}	$I_C = 100\ \mu\text{A}, I_E = 0$	30			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 30\text{V}, I_E = 0$			100	nA
Collector Cutoff Current	I_{EBO}	$V_{CE} = 10\text{V}, I_C = 0$			100	nA
DC Current Gain	h_{FE}	$I_C = 10\text{mA}, V_{CE} = 5\text{V}$	5,000			
		$I_C = 100\text{mA}, V_{CE} = 5\text{V}$	10,000			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 100\ \mu\text{A}$			1.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 100\text{mA}, V_{CE} = 5.0\text{V}$			2.0	V
Output Capacitance	C_{ob0}	$V_{CB} = 10\text{V}, f = 1.0\text{MHz}, I_E = 0$		8.1		pF
Input Capacitance	C_{ib0}	$V_{EB} = 0.5\text{V}, f = 1.0\text{MHz}, I_C = 0$		15		pF
Current Gain-Bandwidth Product	f_T	$V_{CE} = 5.0\text{V}, I_C = 10\text{mA}, f = 100\text{MHz}$	125			MHz

■ Marking

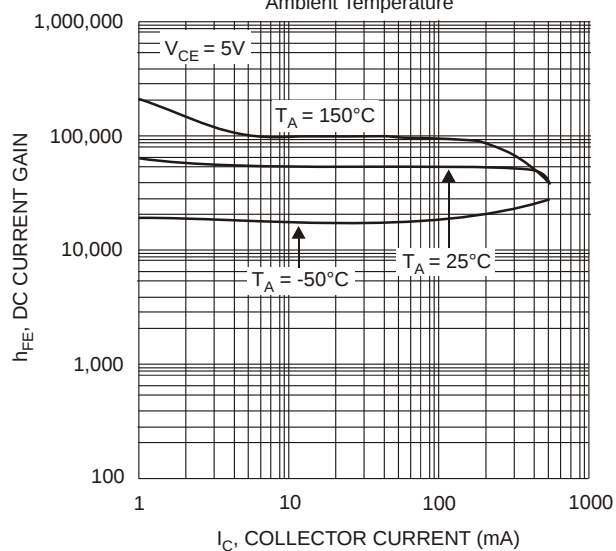
Marking	K2D
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MMSTA13



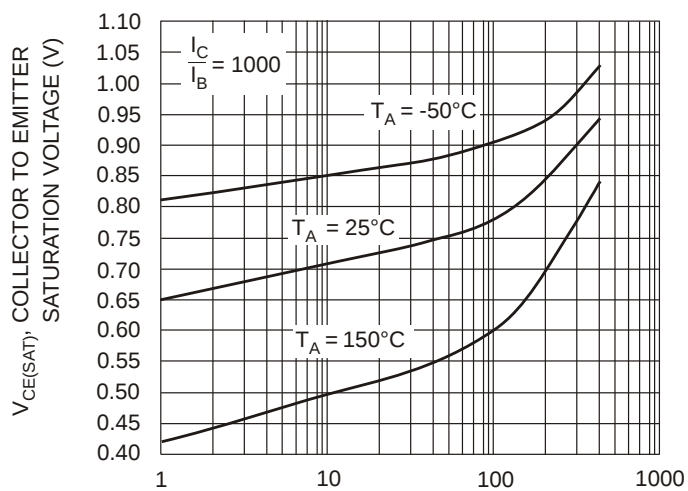
T_A , AMBIENT TEMPERATURE (°C)

Fig. 1, Max Power Dissipation vs Ambient Temperature



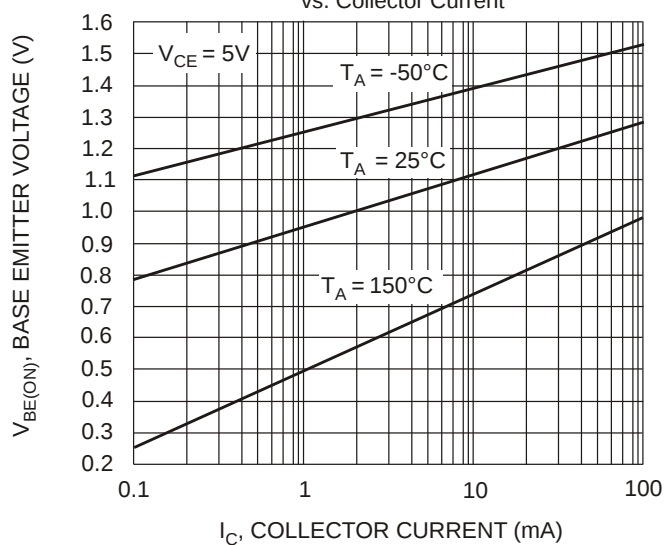
I_C , COLLECTOR CURRENT (mA)

Fig. 3, DC Current Gain vs Collector Current



I_C , COLLECTOR CURRENT (mA)

Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current



I_C , COLLECTOR CURRENT (mA)

Fig. 4, Base Emitter Voltage vs. Collector Current

MMSTA13