

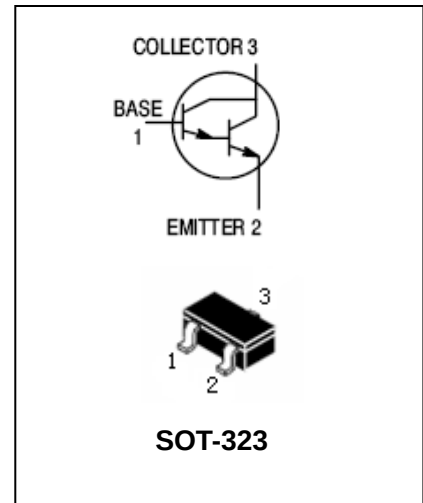
NPN Darlington Amplifier Transistor

MMSTA14

FEATURES

- Epitaxial planar die construction
- Complementary PNP type available (MMSTA64)
- High current gain

HF



APPLICATIONS

- Ideal for medium power amplification and switching

ORDERING INFORMATION

Type No.	Marking	Package Code
MMSTA14	K1N	SOT-323

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	UNIT
V_{CBO}	collector-base voltage	30	V
V_{CEO}	collector-emitter voltage	30 30	V
V_{EBO}	emitter-base voltage	10	V
I_C	collector current (DC)	0.6	A
P_C	Collector dissipation	0.2	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	625	°C/W
T_j, T_{stg}	junction and storage temperature	-55 to +150	°C

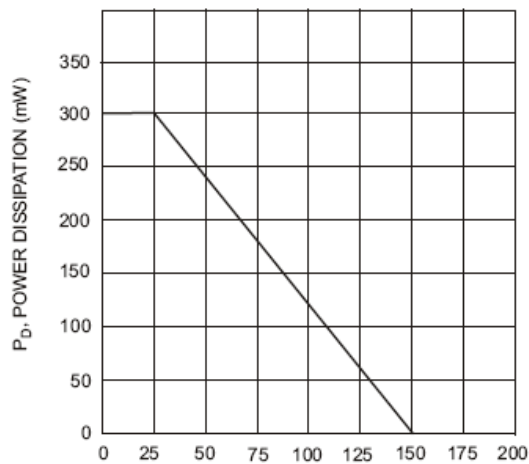
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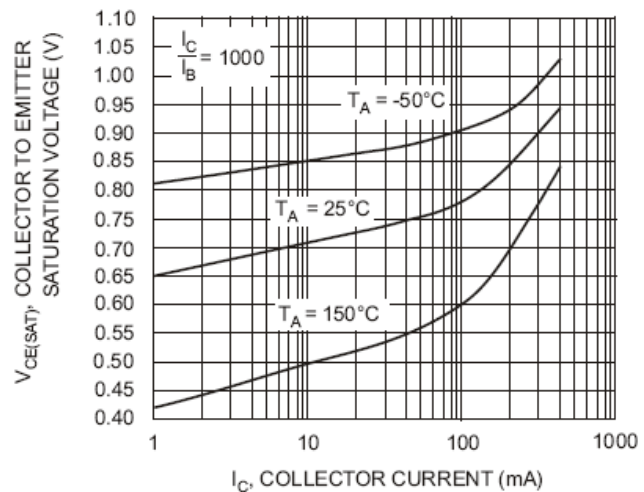
ELECTRICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Test conditions	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu\text{A}, I_E=0$	30	-	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=0.1\text{mA}, I_B=0$	30	-	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=100\mu\text{A}, I_C=0$	10	-	V
I_{CBO}	collector cut-off current	$I_E = 0; V_{CB} = 30\text{V}$	-	0.1	μA
I_{CEO}	collector cut-off current	$I_E = 0; V_{CE} = 10\text{V}$	-	0.1	μA
h_{FE}	DC current gain	$V_{CE} = 5\text{V}; I_C = 10\text{mA}$ $V_{CE} = 5\text{V}; I_C = 100\text{mA}$	10000 20000	-	
$V_{CE(sat)}$	collector-emitter saturation voltage	$I_C = 100\text{mA}; I_B = 0.1\text{mA}$	-	1.5	V
V_{BE}	Base-emitter on voltage	$I_C=100\text{mA}, V_{CE}=5\text{V}$	-	2.0	V
f_T	transition frequency	$I_C = 10\text{mA}; V_{CE} = 5.0\text{V};$ $f = 100\text{MHz}$	125	-	MHz

TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified



T_A , AMBIENT TEMPERATURE ($^\circ\text{C}$)
Fig. 1, Max Power Dissipation vs Ambient Temperature



I_C , COLLECTOR CURRENT (mA)
Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

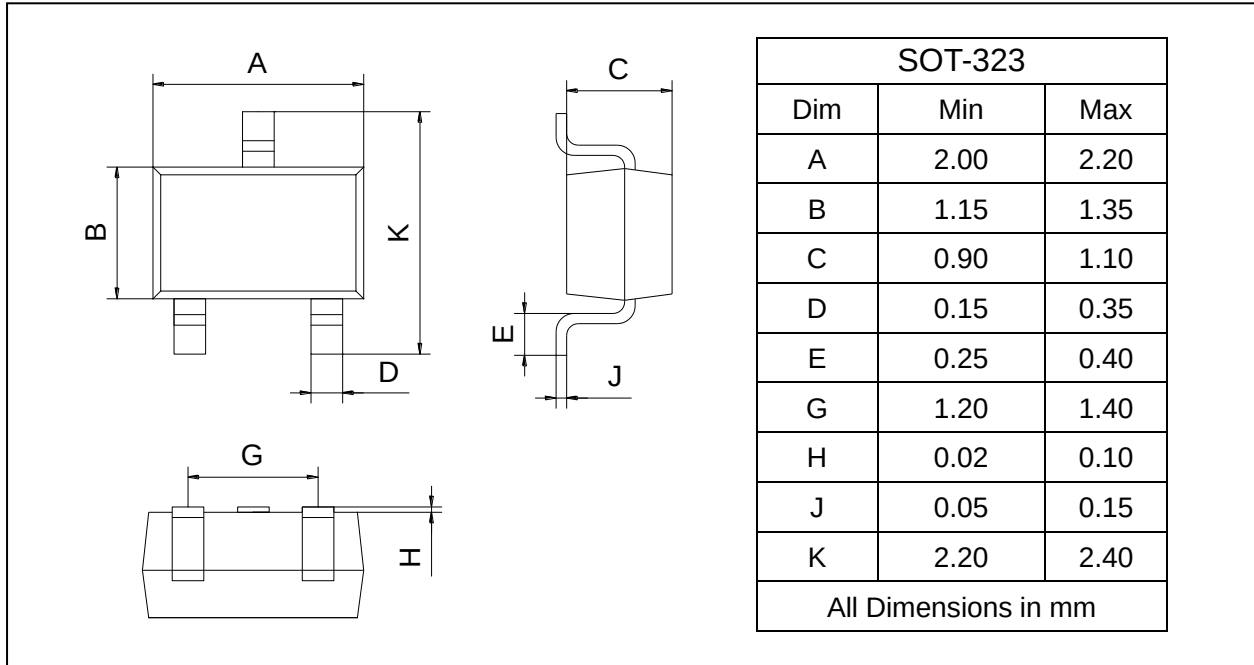
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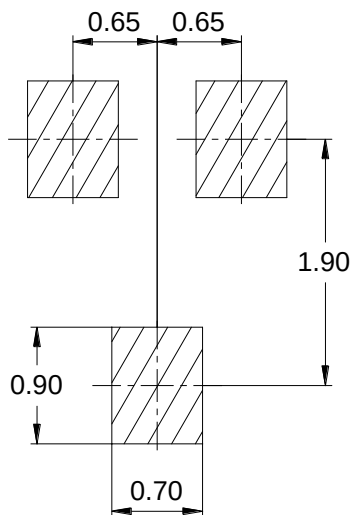
PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



SOLDERING FOOTPRINT



Unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
MMSTA14	SOT-323	3000 pcs / Tape & Reel