



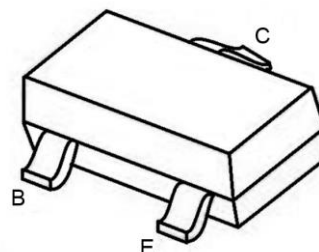
MMBTA14 Surface Mount Darlington Transistor(NPN)

Feature

- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/Rohs Compliant
- For Switching And AF Amplifier Applications
- Rugged And Reliable

Marking: K3D/1N

SOT-23



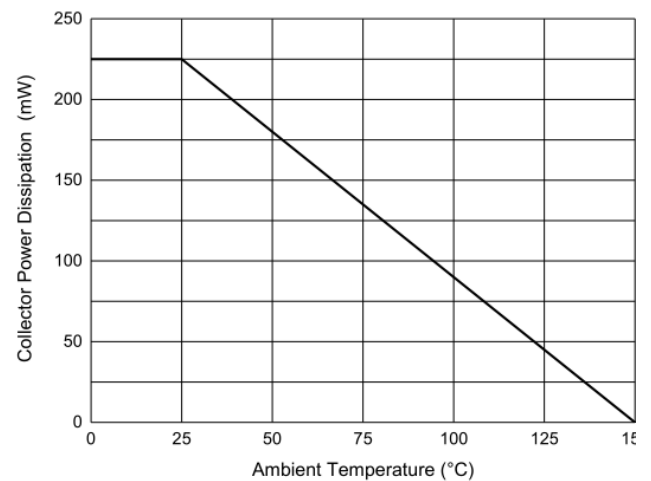
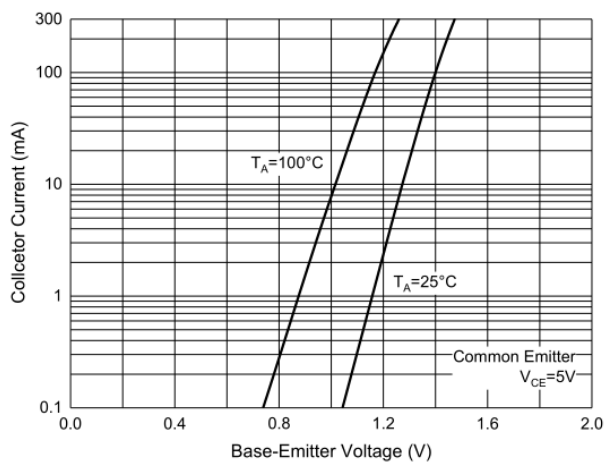
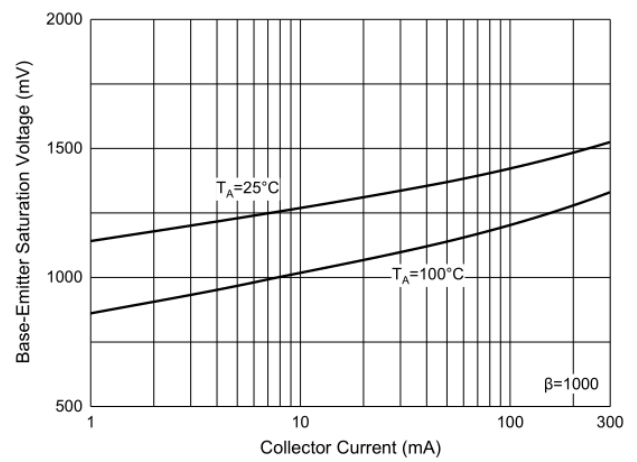
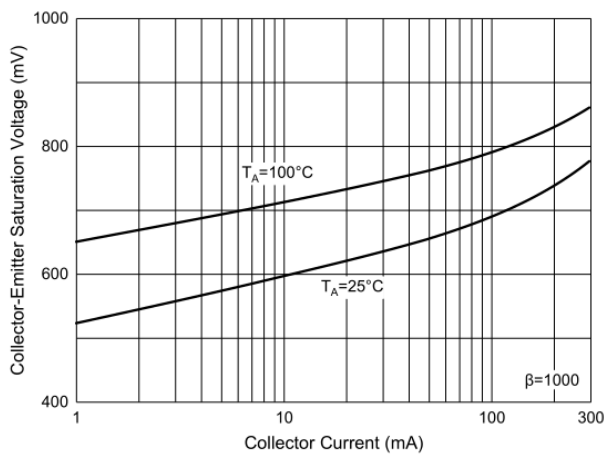
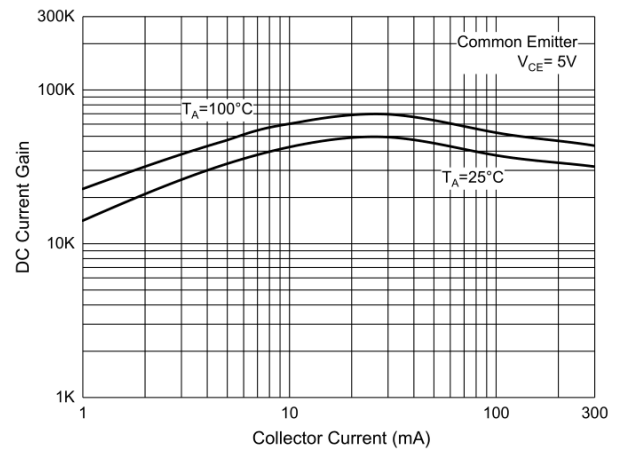
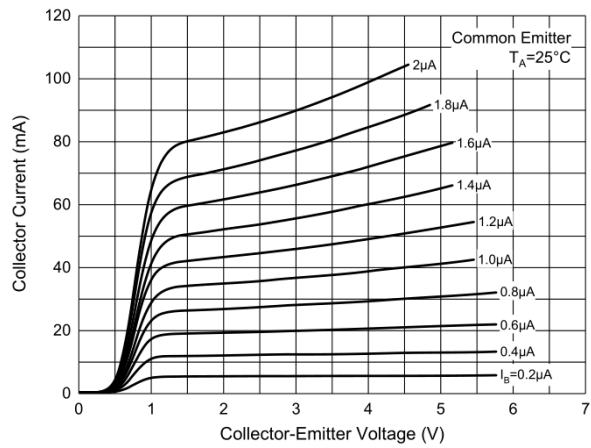
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

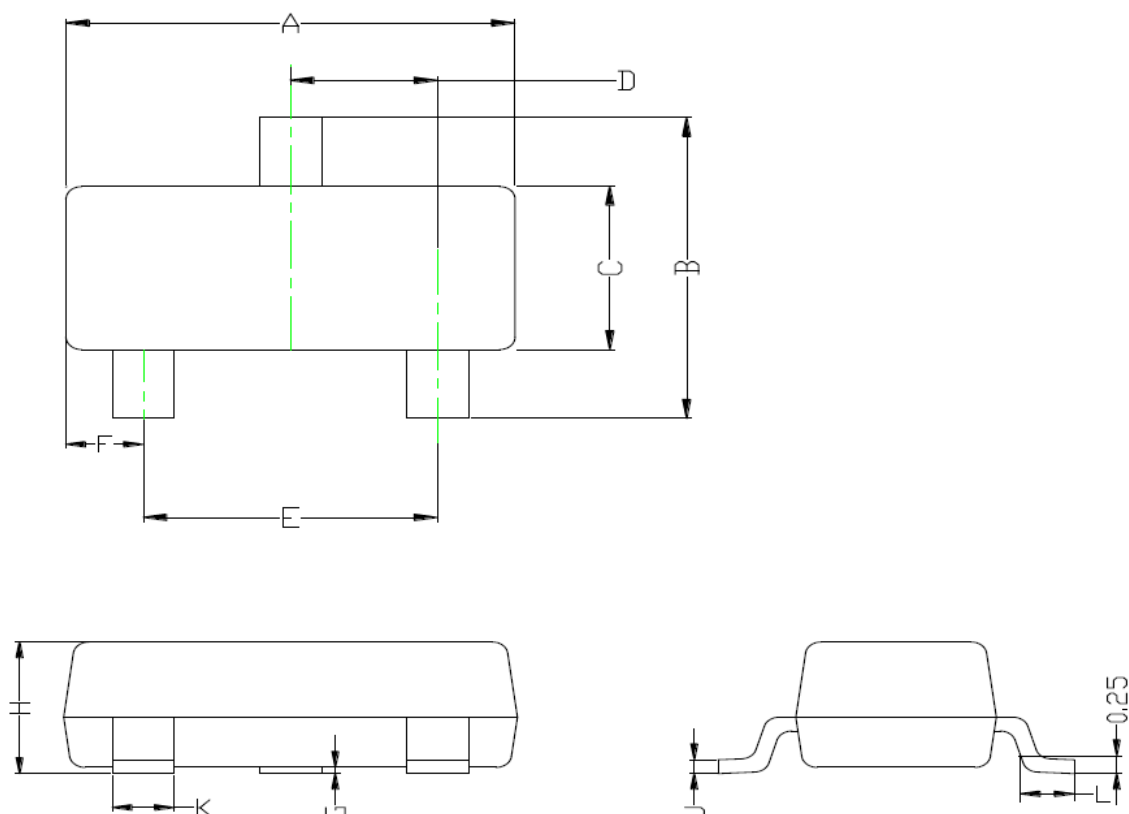
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	10	V
Collector Current -Continuous	I_C	0.3	A
Power Dissipation	P_d	0.225	W
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}$, $I_E = 0$	30		V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 100\mu\text{A}$, $I_B = 0$	30		V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}$, $I_C = 0$	10		V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = 30\text{V}$, $I_E = 0$		0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = 10\text{V}$, $I_C = 0$		0.1	μA
Dc Current Gain	h_{FE}	$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$	10000		
		$V_{CE} = 1\text{V}$, $I_C = 150\text{mA}$	20000		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}$, $I_B = 0.1\text{mA}$		1.5	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = 5\text{V}$, $I_C = 100\text{mA}$		2	V
Transition Frequency	f_T	$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$, $f = 100\text{MHz}$	125		MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$		8	pF
Input Capacitance	C_{ibo}	$V_{EB} = 0.5\text{V}$, $I_C = 0$, $f = 1\text{MHz}$		15	pF
Delay Time	t_d	$V_{CC} = 30\text{V}$, $V_{BE} = 0.5\text{V}$, $I_C = 150\text{mA}$, $I_{B1} = 15\text{mA}$		10	nS
Rise Time	t_r			25	nS
Storage Time	t_s	$V_{CC} = 30\text{V}$, $I_C = 150\text{mA}$, $I_{B1} = I_{B2} = 15\text{mA}$		225	nS
Fall Time	t_f			60	nS

Typical Characteristics



SOT-23 Package Information


Symbol	Dimensions in mm	
	Min.	Max.
A	2.800	3.040
B	2.100	2.640
C	1.200	1.400
D	0.890	1.030
E	1.780	2.050
F	0.450	0.600
G	0.013	0.100
H	0.900	1.110
J	0.085	0.180
K	0.370	0.510
L	0.300	0.500

Attention:

- GreenPower Electronics reserves the right to improve product design function and reliability without notice.
- Any and all semiconductor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customer are solely responsible for providing adequate safe measures when design their systems.
- GreenPower Electronics products belong to consumer electronics or other civilian electronic products.