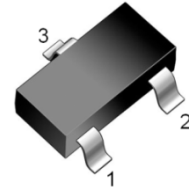


REPLACEMENT TYPE : MMBTA28
FEATURES

- Darlington Amplifier



SOT-23 MARKING:3SS

1:BASE 2:EMITTER 3:COLLECTOR

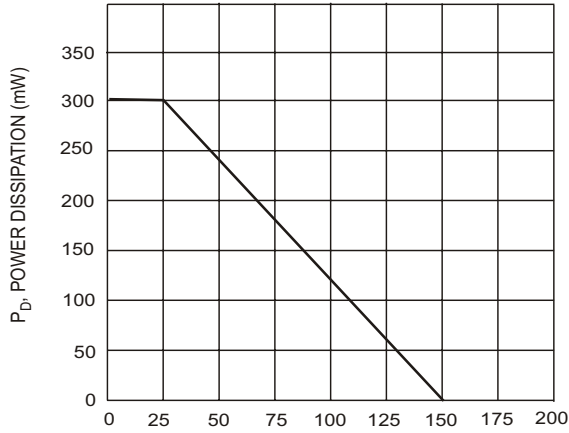
MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	80	V
Collector-Emitter Voltage	V _{CEO}	80	V
Emitter-Base Voltage	V _{EBO}	12	V
Collector Current-Continuous	I _C	500	mA
Collector Power Dissipation	P _C	200	mW
Thermal Resistance Junction to Ambient	R _{θJA}	625	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55to +150	°C

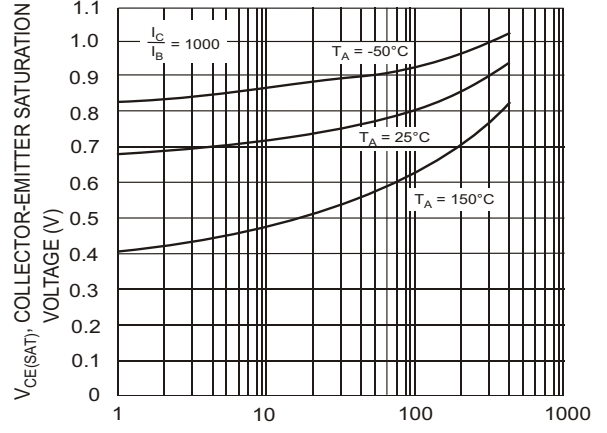
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V _{CB0}	I _C =100μA, I _E =0	80			V
Collector-Emitter Breakdown Voltage	V _{CEO}	I _C =100μA, I _B =0	80			V
Emitter-Base Breakdown Voltage	V _{EBO}	I _E =10uA, I _C =0	12			V
Collector Cut-off Current	I _{CB0}	V _{CB} =60V, I _E =0			0.1	μA
Collector Cut-off current	I _{CES}	V _{CE} =60V, V _{BE} =0			0.5	μA
Emitter Cut-off Current	I _{EBO}	V _{EB} =10V, I _C =0			0.1	μA
DC Current Gain	h _{FE(1)}	V _{CE} =5V, I _C =10mA	10000			K
	h _{FE(2)}	V _{CE} =5V, I _C =100mA	10000			K
Collector-Emitter Saturation Voltage	V _{CE(sat)1}	I _C =10mA, I _B =0.01mA			1.2	V
	V _{CE(sat)2}	I _C =100mA, I _B =0.1mA			1.5	V
Base-Emitter Voltage	V _{BE}	V _{CE} =5V, I _C =100mA			2	V
Transition Frequency	f _T	V _{CE} =5V, I _C =10mA, f=100MHz	125		8	MHz
Collector Output Capacitance	C _{OB}	V _{CB} =1V, I _E =0, f=1MHz				pF

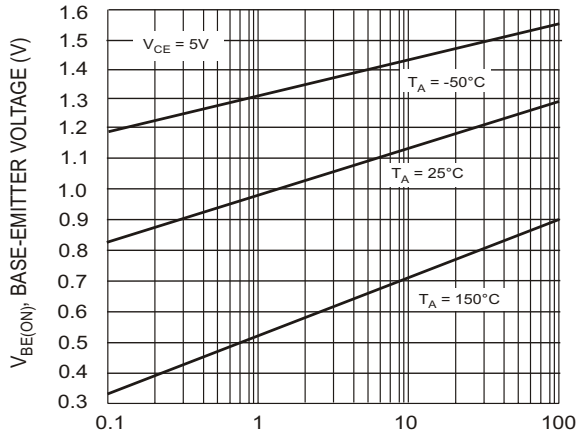
Typical Characteristics



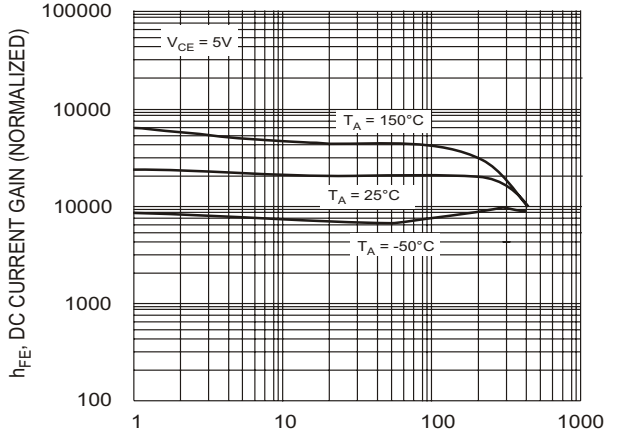
T_A, AMBIENT TEMPERATURE (°C)
Fig. 1, Max Power Dissipation vs Ambient Temperature



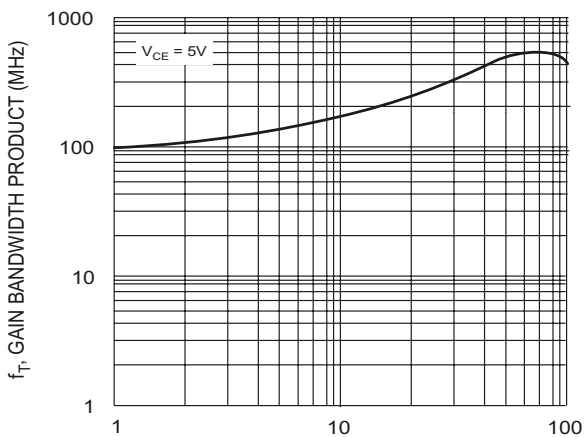
I_C, COLLECTOR CURRENT (mA)
Fig. 2 Typical Collector-Emitter Saturation Voltage vs. Collector Current



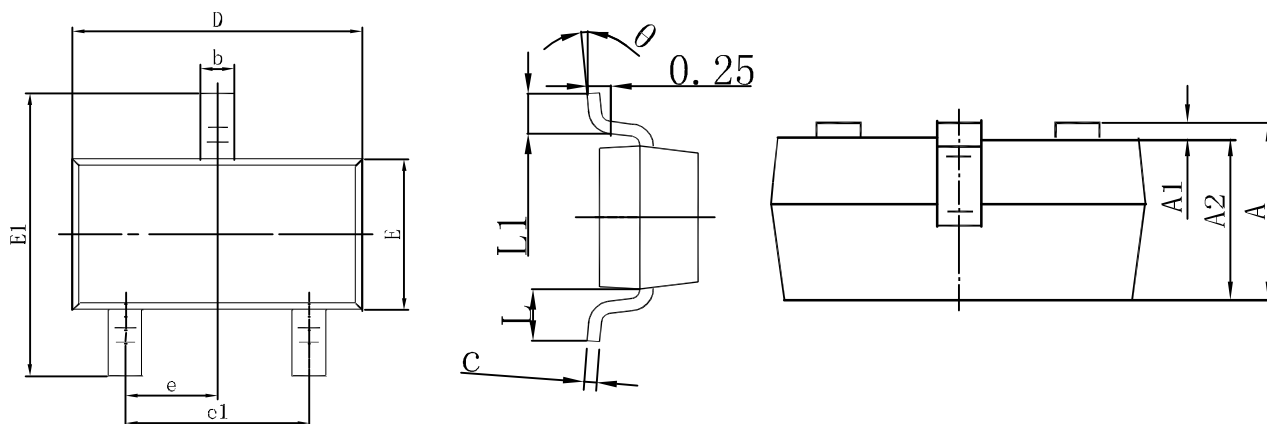
I_C, COLLECTOR CURRENT (mA)
Fig. 3 Typical Base-Emitter Voltage vs. Collector Current



I_C, COLLECTOR CURRENT (mA)
Fig. 4 Typical DC Current Gain vs. Collector Current

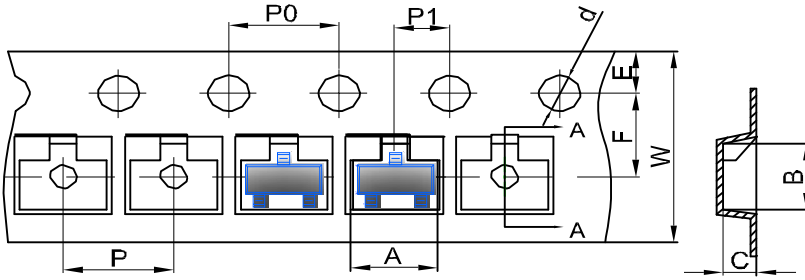


COLLECTOR CURRENT I_C (mA)
Fig. 5 Typical Gain Bandwidth Product vs. Collector Current

SOT-23 Package Outline Dimensions


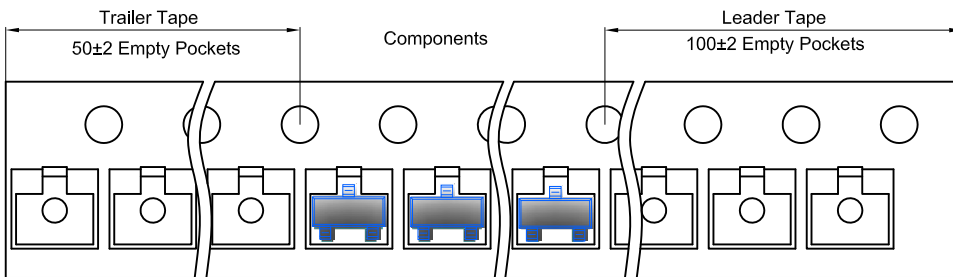
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Embossed Carrier Tape

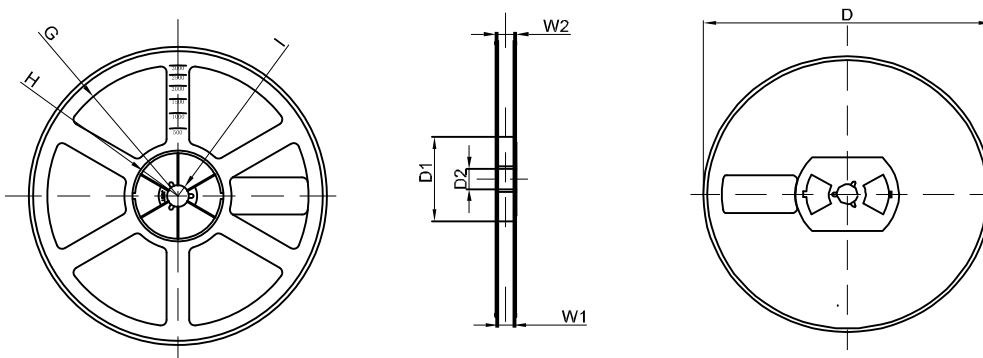


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	φ1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SOT-23 Tape Leader and Traller



SOT-23 Reel



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	φ178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1