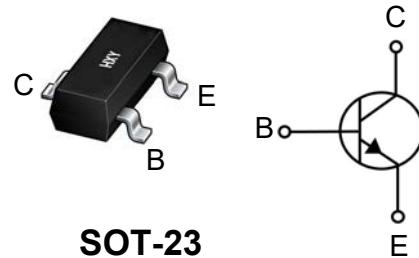




## Features

BVCEO > 60V.  
IC = 1A Continuous Collector Current.  
ICM = 2A Peak Pulse Current.  
500mW Power Dissipation.  
 $h_{FE}$  Characterized up to 2A for High Current Gain Hold Up.



## Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
DNBT8105-7	SOT-23	491	3000

## Maximum Ratings (Ta=25°C unless otherwise noted)

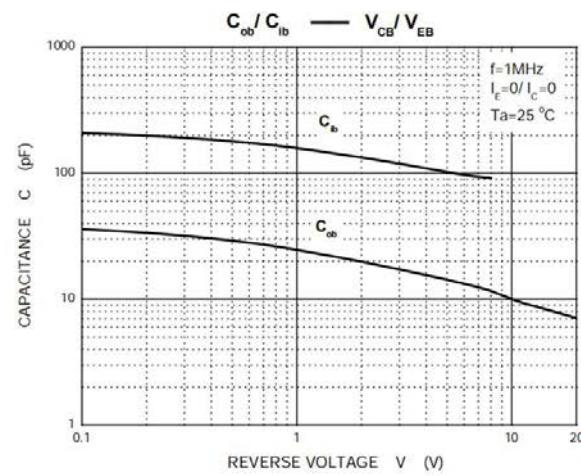
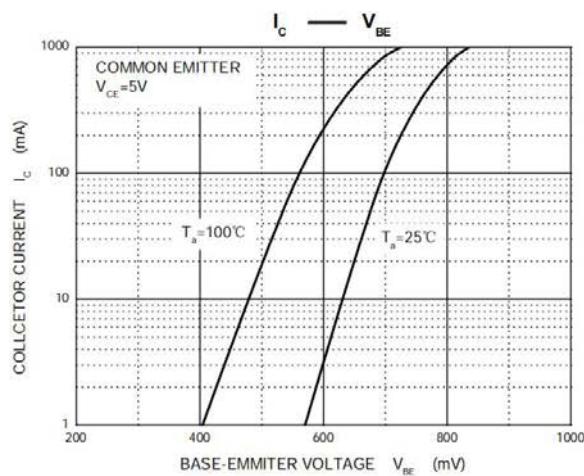
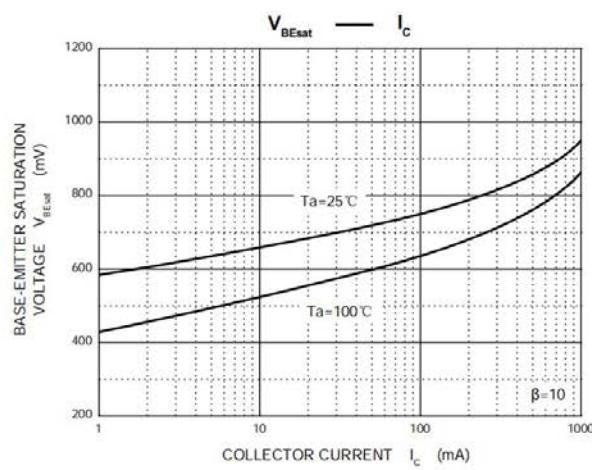
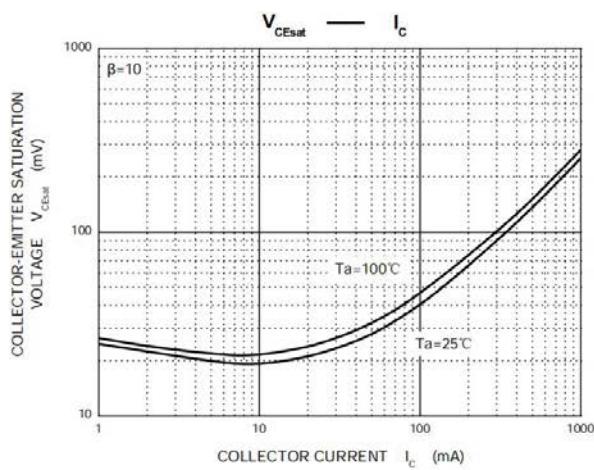
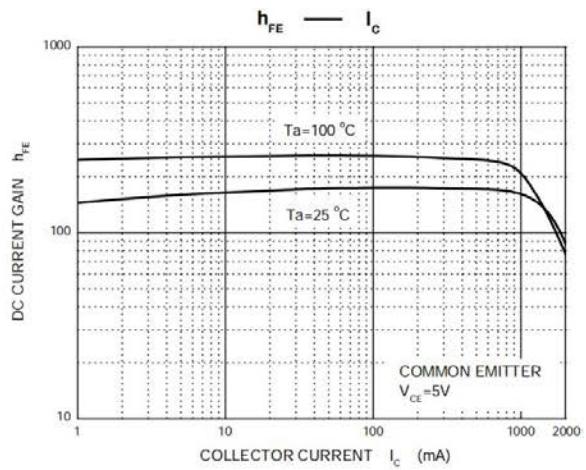
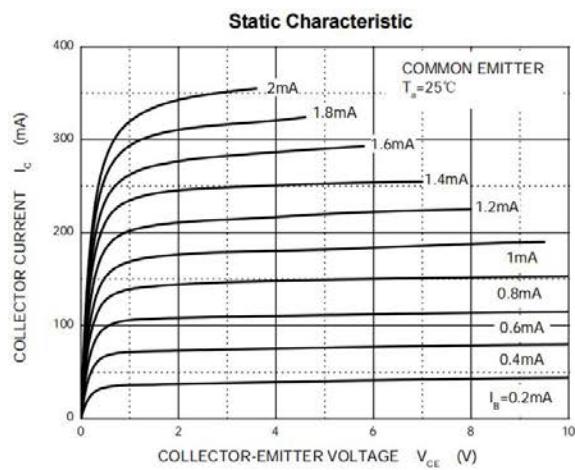
Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	1	A
$I_{CM}$	Peak Pulse Current	2	A
$P_C$	Collector Power Dissipation	250	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	500	°C/W
$T_J, T_{stg}$	Operation Junction And Storage Temperature Range	-55~+150	°C

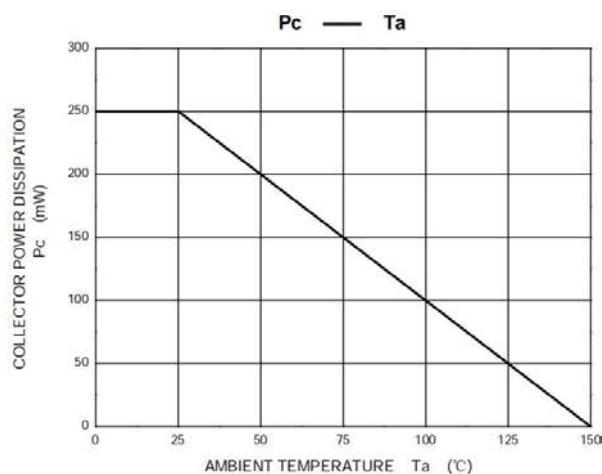
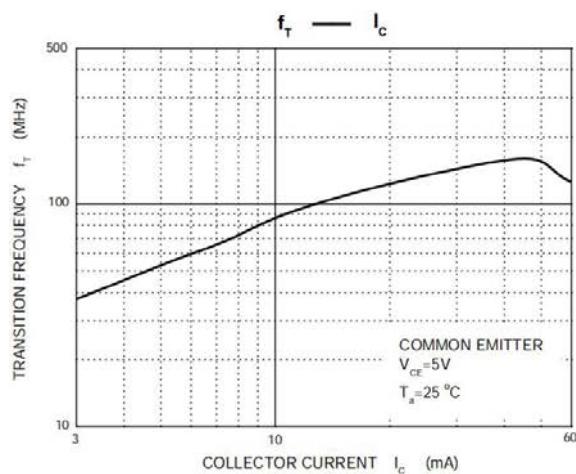
## Electrical Characteristics (Ta=25°C unless otherwise noted)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$	80			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=10mA, I_B=0$	60			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=100\mu A, I_C=0$	5			V
$I_{CBO}$	Collector cut-off current	$V_{CB}=60V, I_E=0$			100	nA
$I_{EBO}$	Emitter cut-off current	$V_{EB}=4V, I_C=0$			100	nA
$h_{FE}(1)$	DC current gain(1)	$V_{CE}=5V, I_C=1mA$	100			
$h_{FE}(2)$	DC current gain(2)	$V_{CE}=5V, I_C=500mA$	100		300	
$h_{FE}(3)$	DC current gain(3)	$V_{CE}=5V, I_C=1A$	80			
$h_{FE}(4)$	DC current gain(4)	$V_{CE}=5V, I_C=2A$	30			
$V_{CE(sat)1}$	Collector-emitter saturation voltage	$I_C=500mA, I_B=50mA$			0.25	V
$V_{CE(sat)2}$	Collector-emitter saturation voltage	$I_C=1A, I_B=100mA$			0.5	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=1A, I_B=100mA$			1.1	V
$V_{BE}$	Base-emitter voltage	$V_{CE}=5V, I_C=1A$			1	V
$f_T$	Transition frequency	$V_{CE}=10V, I_C=50mA, f=100MHz$	150			MHz
$C_{ob}$	Collector output capacitance	$VCB=10V, f=1MHz$			10	pF

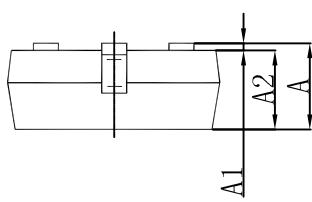
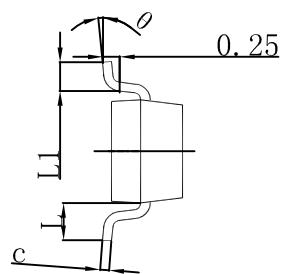
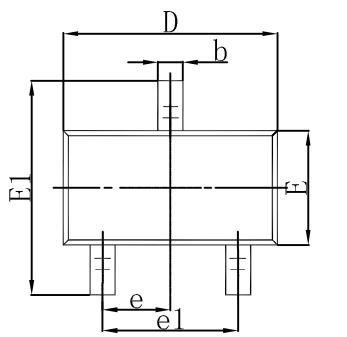


## Typical Characteristics





### 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°



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