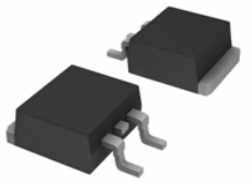
NPN Power Darlington Transistor
100V 1.5W TO-252

MJD122T252

MERITEK

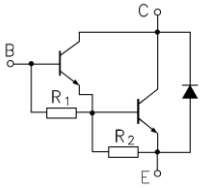
FEATURE

- Darlington Transistor with Built-In Base-Emitter Shunt Resistors
- High DC Current Gain Performance with Low Saturation Voltage
- Low Collector-Emitter Saturation Voltage
- Application: General Purpose Linear and Switching Regulator, Converter, Power Amplifier



MECHANICAL DATA

- Case: TO-252, molded plastic
- Terminals: Solderable per MIL-STD-750, Method 2026



RoHS

MAXIMUM RATING

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	8	A
Total Power Dissipation	P_{tot}	1.5	W
Junction Temperature and Storage Temperature Range	T_J, T_{stg}	-55 ~+150	°C

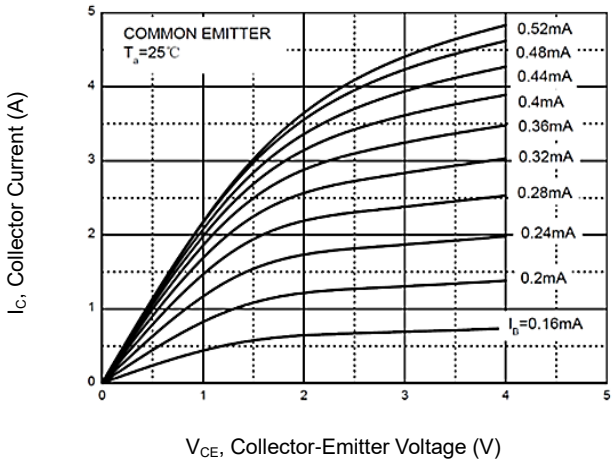
ELECTRICAL CHARACTERISTICS

Parameter- ON Characteristic	Conditions	Symbol	Min.	Max.	Unit
DC Current Gain	V_{CE}=4V, I_C=4A	h_{FE}	1000	12000	-
	V_{CE}=4V, I_C=8A		100	-	
Collector-Emitter Saturation Voltage	I_C=4A, I_B=16mA	$V_{CE(SAT)}$	-	2	V
	I_C=8A, I_B=80mA		-	4	
Base-Emitter Saturation Voltage	I_C=8A, I_B=80mA	$V_{BE(SAT)}$	-	4.5	V
Base-Emitter Voltage	V_{CE}=4V, I_C=4A	$V_{BE(ON)}$	-	2.8	V
Parameter- OFF Characteristics	**Conditions**	**Symbol**	**Min.**	**Max.**	**Unit**
Collector-Base Breakdown Voltage	I_C=1mA, I_E=0	$V_{(BR)CBO}$	100	-	V
Collector-Emitter Breakdown Voltage	I_C=30mA, I_B=0	$V_{(BR)CEO}$	100	-	V
Emitter-Base Breakdown Voltage	I_E=3mA, I_C=0	$V_{(BR)EBO}$	5	-	V
Base Cut-Off Current	V_{CB}=100V, I_E=0	I_{CBO}	-	10	μA
Collector Cut-Off Current	V_{CE}=50V, I_E=0	I_{CEO}	-	10	μA
Emitter Cut-Off Current	V_{EB}=5V, I_C=0	I_{EBO}	-	2	mA
Output Capacitance	V_{CB}=10V, I_E=0, f=0.1MHz	C_{OB}	-	200	pF

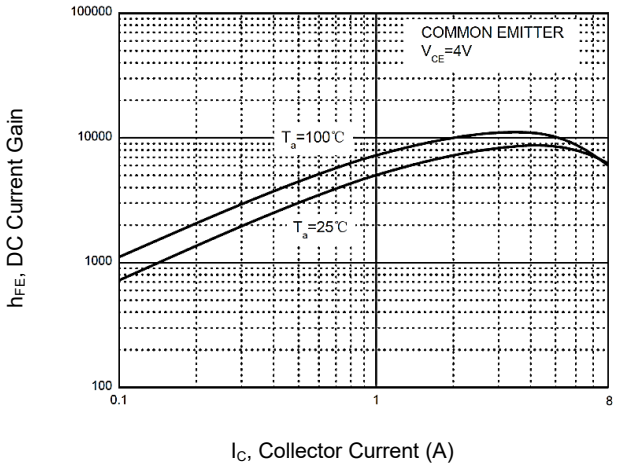
Note:
1. T_A=25°C unless otherwise noted.

CHARACTERISTIC CURVES

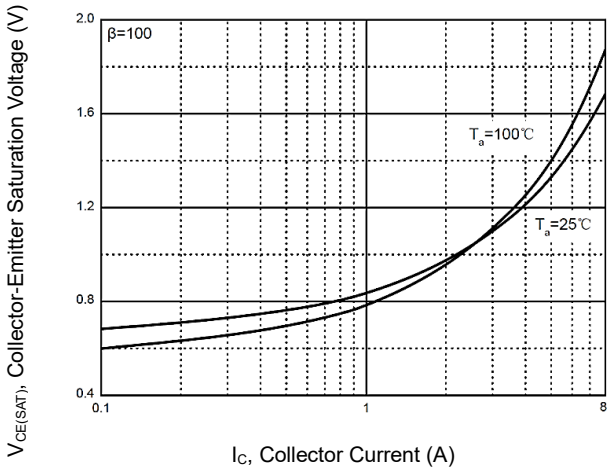
Static Characteristic



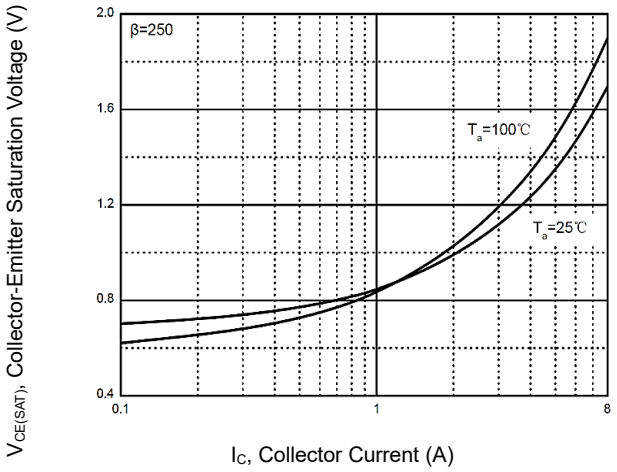
DC Current Gain



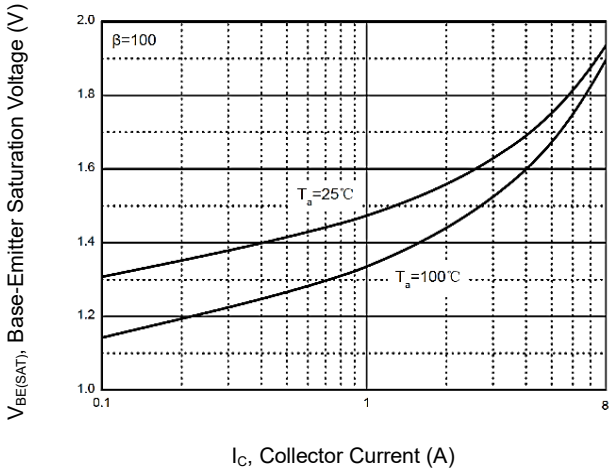
Collector-Emitter Saturation Voltage



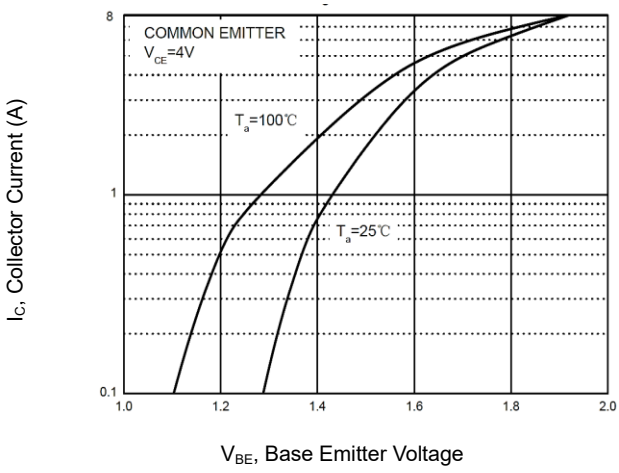
Collector-Emitter Saturation Voltage



Base Emitter Saturation Voltage



Collector Current v.s Base Emitter Voltage



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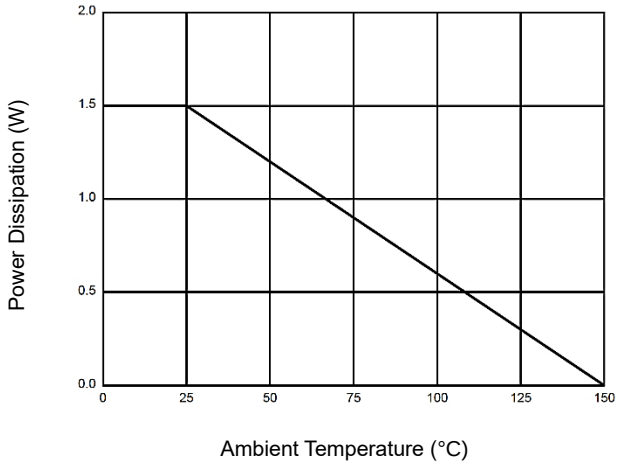
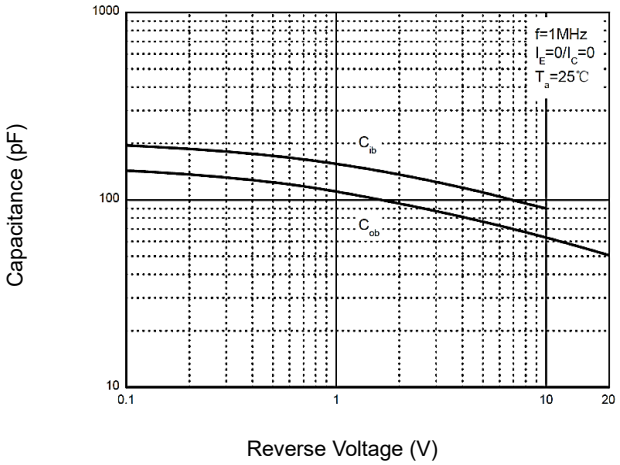
CHARACTERISTIC CURVES

Power Derating Curve



Capacitance



DIMENSIONS

Item	Min. (mm)	Max. (mm)
A	2.200	2.400
A1	0.000	0.127
b	0.635	0.770
b2	0.650	1.150
b3	5.100	5.460
c2	0.460	0.580
D	6.000	6.200
E	6.500	6.700
e	2.186	2.386
H	9.712	10.312
L	1.400	1.700
L2	0.600	1.000

Note: 1: Base, 2: Collector, 3: Emitter