

Features

- High DC Current Gain
- Built-in a Damper Diode at E-C
- Halogen Free. "Green" Device^(Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings @ 25°C Unless Otherwise Specified

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	5	A
Power Dissipation @ $T_C=25^\circ\text{C}$	P_D	41.7	W
Power Dissipation @ $T_A=25^\circ\text{C}$	P_D	1.5	W

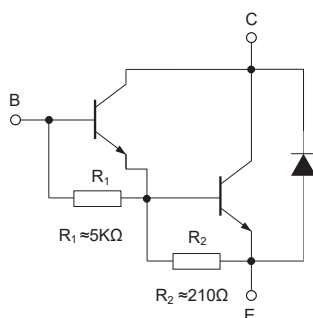
Thermal characteristics

Parameter	Symbol	Rating	Unit
Junction Temperature Range	T_J	-55~+150	°C
Storage Temperature Range	T_{stg}	-55~+150	°C
Thermal Resistance from Junction to Ambient	$R_{th(J-A)}$	83.3	°C/W
Thermal Resistance from Junction to Case	$R_{th(J-C)}$	3	°C/W

Note:

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Schematic Diagram

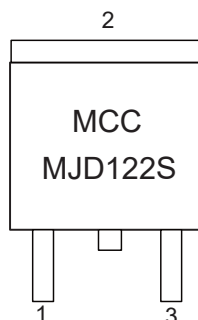


1.BASE

2.COLLECTOR

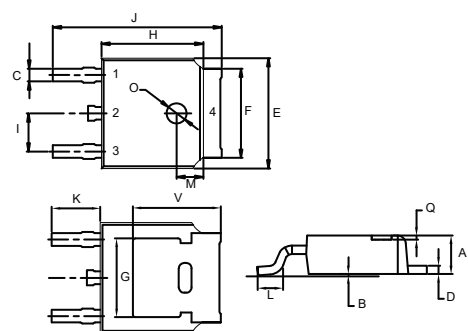
3.EMITTER

Marking Code:



NPN Plastic-Encapsulate Transistors

DPAK(TO-252)



1.BASE
2,4.COLLECTOR
3.EMITTER

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.087	0.094	2.20	2.40	
B	0.000	0.005	0.00	0.13	
C	0.026	0.034	0.66	0.86	
D	0.018	0.023	0.46	0.58	
E	0.256	0.264	6.50	6.70	
F	0.201	0.215	5.10	5.46	
G	0.190		4.83		TYP.
H	0.236	0.244	6.00	6.20	
I	0.086	0.094	2.18	2.39	
J	0.386	0.409	9.80	10.40	
K	0.114		2.90		TYP.
L	0.055	0.067	1.40	1.70	
M	0.063		1.60		TYP.
O	0.043	0.051	1.10	1.30	
Q	0.000	0.012	0.00	0.30	
V	0.211		5.35		TYP.

Electrical Characteristics @ $T_A=25^{\circ}\text{C}$ Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	100			V	$I_C=1\text{mA}$, $I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	100			V	$I_C=10\text{mA}$, $I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_E=3\text{mA}$, $I_C=0$
Collector Cutoff Current	I_{CBO}			10	μA	$V_{CB}=100\text{V}$, $I_E=0$
Collector Cutoff Current	I_{CEO}			10	μA	$V_{CE}=50\text{V}$, $I_B=0$
Emitter Cutoff Current	I_{EBO}			2	mA	$V_{EB}=5\text{V}$, $I_C=0$
DC Current Gain	$h_{FE(1)}$	1000		12000		$V_{CE}=4\text{V}$, $I_C=3\text{A}$
	$h_{FE(2)}$	300				$V_{CE}=4\text{V}$, $I_C=5\text{A}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			2.0	V	$I_C=3\text{A}$, $I_B=12\text{mA}$
				4.0	V	$I_C=5\text{A}$, $I_B=50\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			4.5	V	$I_C=5\text{A}$, $I_B=50\text{mA}$
Base-Emitter Voltage	V_{BE}			2.8	V	$V_{CE}=4\text{V}$, $I_C=3\text{A}$
Output Capacitance	C_{ob}		25		pF	$V_{CB}=10\text{V}$, $I_E=0$, $f=0.1\text{MHz}$

Curve Characteristics

Fig. 1 - Static Characteristics

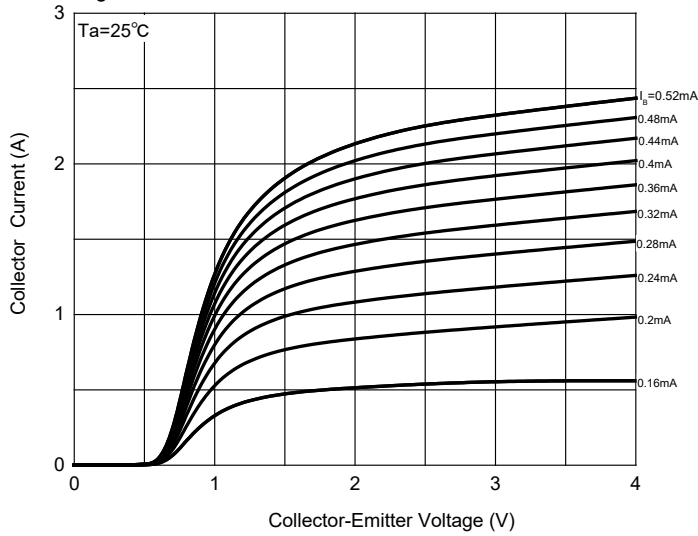


Fig. 2 - DC Current Gain Characteristics

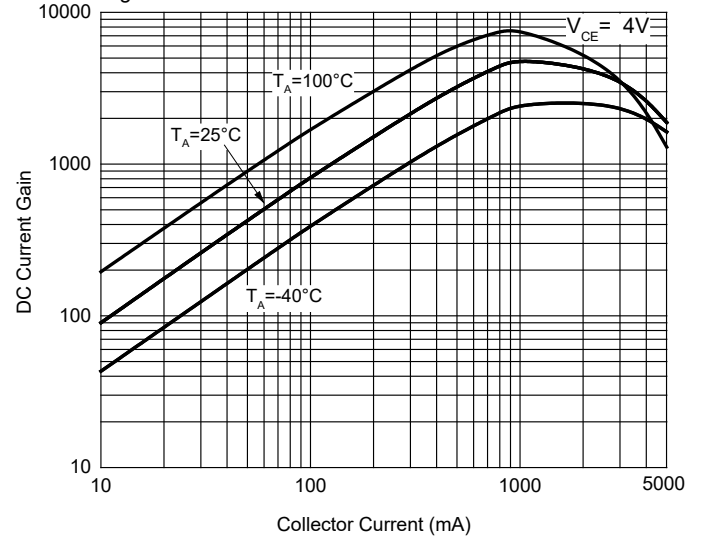


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

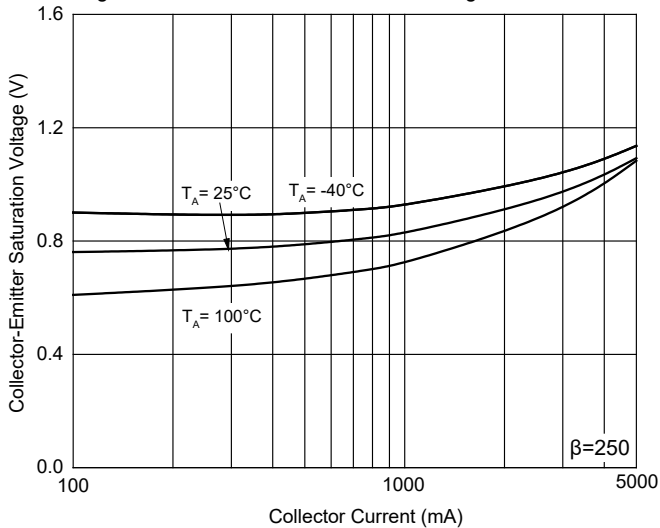


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

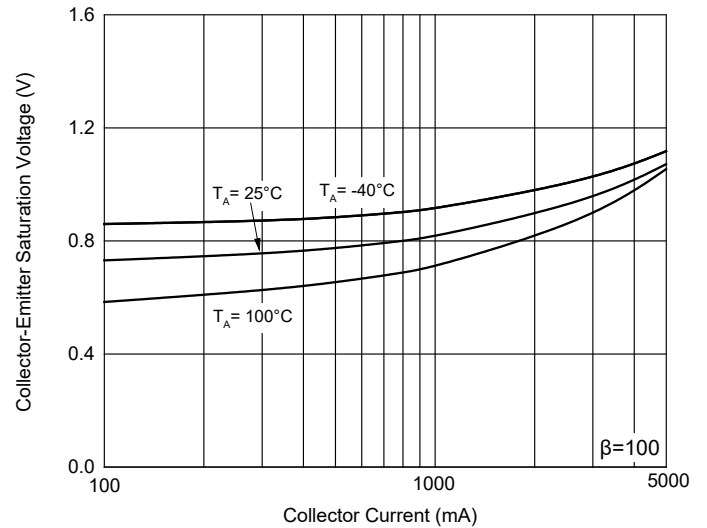


Fig. 5 - Base-Emitter Saturation Voltage Characteristics

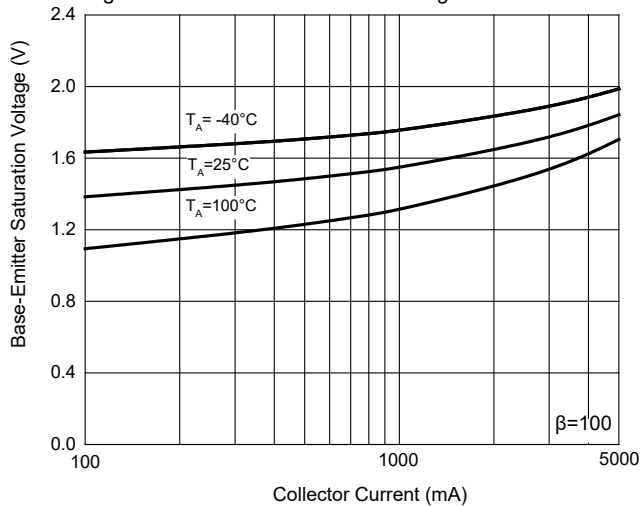
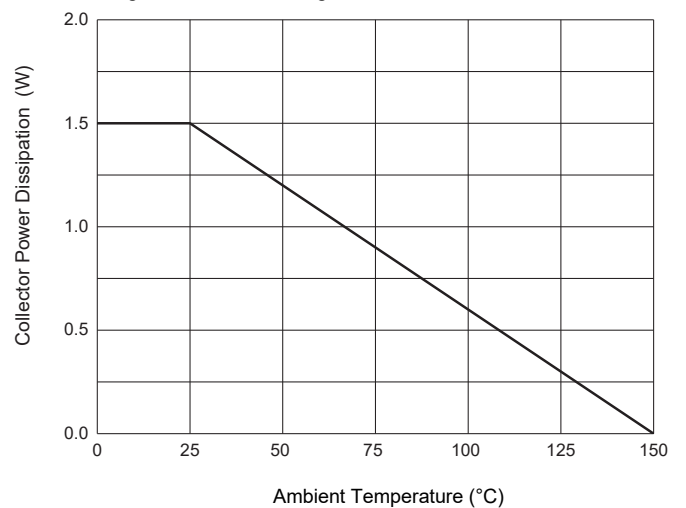


Fig. 6 - Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

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