

Features

- Low Collector-Emitter Saturation Voltage
- High Current Capability
- Halogen Free. "Green" Device (Note 1)
- AEC-Q101 Qualified
- 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}	40	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	2	A
Power Dissipation	P_D	300	mW

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	$R_{th(J-A)}$	417	°C/W

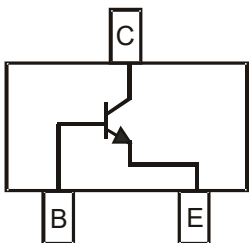
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

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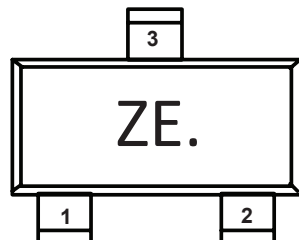
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.014	0.020	0.35	0.51	
L	0.007	0.020	0.20	0.50	

Suggested Solder Pad Layout

Internal Structure



Device Marking



Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	40			V	$I_C=100\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	40			V	$I_C=1mA, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_E=100\mu A, I_C=0$
Collector-Base Cutoff Current	I_{CBO}			100	nA	$V_{CB}=30V, I_E=0$
Emitter-Base Cutoff Current	I_{EBO}			100	nA	$V_{EB}=4V, I_C=0$
DC Current Gain	h_{FE1}	350				$V_{CE}=2V, I_C=100mA$
	h_{FE2}	300				$V_{CE}=2V, I_C=500mA$
	h_{FE3}	300				$V_{CE}=2V, I_C=1A$
	h_{FE4}	150				$V_{CE}=2V, I_C=2A$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			70	mV	$I_C=100mA, I_B=1mA$
				100	mV	$I_C=500mA, I_B=50mA$
				180	mV	$I_C=750mA, I_B=15mA$
				180	mV	$I_C=1A, I_B=50mA$
				320	mV	$I_C=2A, I_B=200mA$
Equivalent On-Resistance	$R_{CE(sat)}$			200	mΩ	$I_C=500mA, I_B=50mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1.1	V	$I_C=2A, I_B=200mA$
Base-Emitter Voltage	V_{BE}			0.75	V	$V_{CE}=2V, I_C=100mA$
Transition Frequency	fT	100			MHz	$V_{CE}=10V, I_C=100mA, f=100MHz$
Output capacitance	C_{ob}			20	pF	$V_{CB}=10V, I_E=0, f=1MHz$

Curve Characteristics

Fig. 1 - Static Characteristics

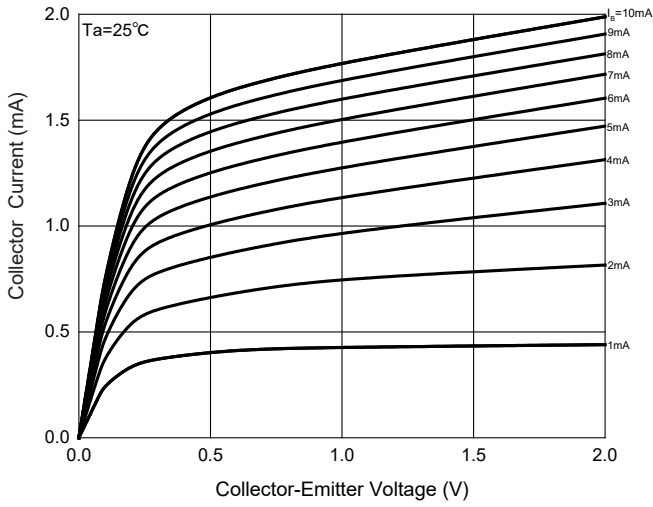


Fig. 2 - DC Current Gain Characteristics

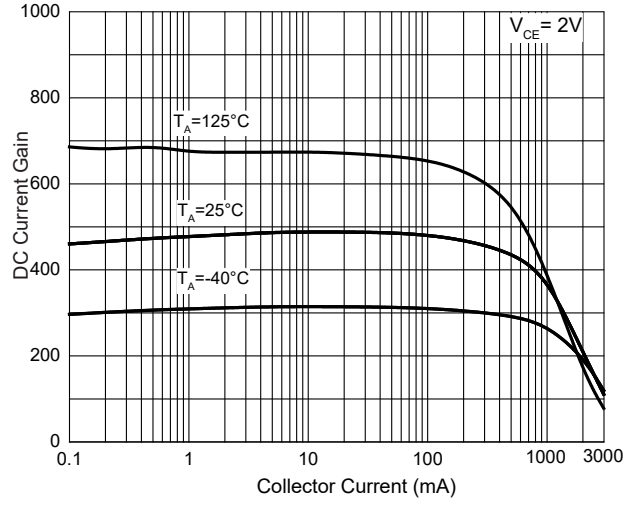


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

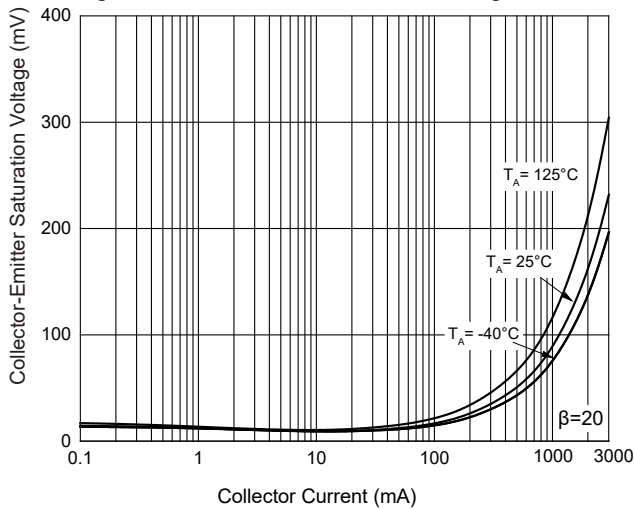


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

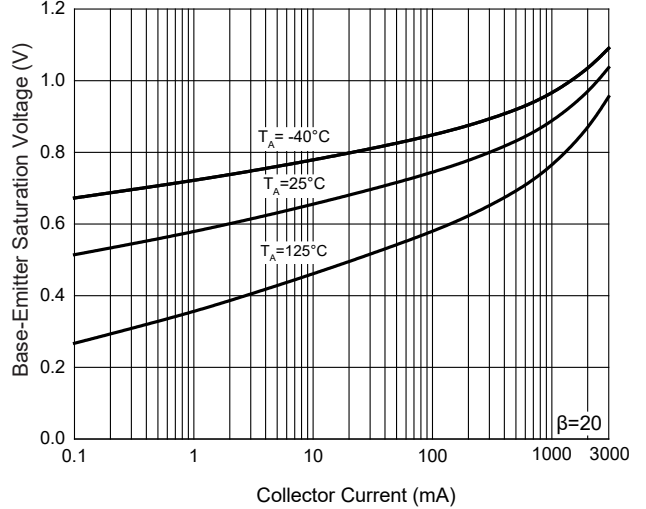


Fig. 5 - Base-Emitter Voltage Characteristics

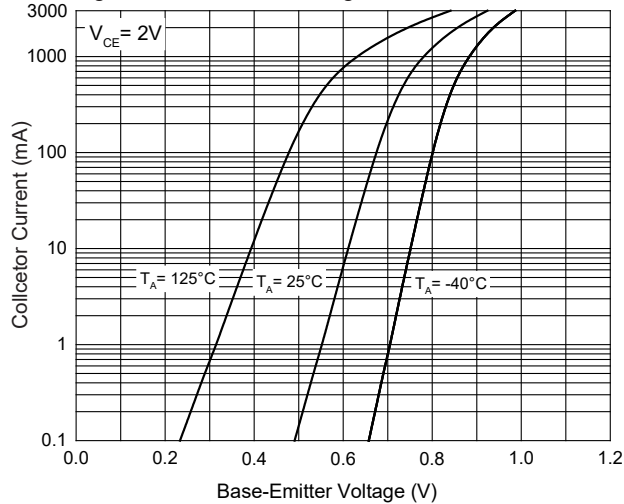
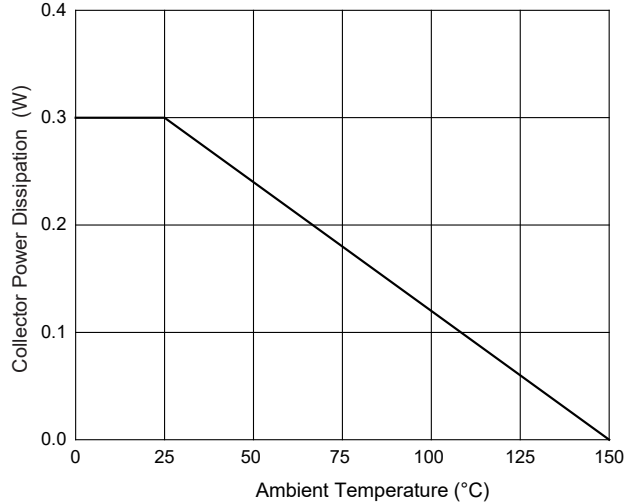


Fig. 6 - Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel; 3Kpcs/Reel

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