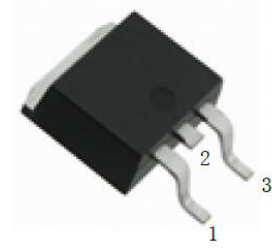


TIP127R

PNP Silicon Epitaxial Planar Darlington Transistors



TO-252 Plastic Package
1.Base 2.Collector 3.Emitter

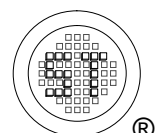
Absolute Maximum Ratings

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	$-I_C$	5	A
Peak Collector Current, Pulsed	$-I_{CM}$	8	A
Base Current	$-I_B$	0.1	A
Total Power Dissipation	P_{tot}	$T_C \leq 25^\circ\text{C}$ 20 $T_a \leq 25^\circ\text{C}$ 1	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Case	$R_{\theta JC}$	6.25	$^\circ\text{C/W}$
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	125	$^\circ\text{C/W}$

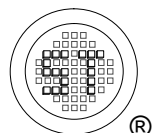
¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with 1-inch square copper plate in still air.



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Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE} = 3\text{ V}$, $-I_C = 0.5\text{ A}$ at $-V_{CE} = 3\text{ V}$, $-I_C = 3\text{ A}$	h_{FE} h_{FE}	1000 1000	- -	- -
Collector Emitter Cutoff Current at $-V_{CE} = 50\text{ V}$	$-I_{CEO}$	-	0.5	mA
Collector Base Cutoff Current at $-V_{CB} = 100\text{ V}$	$-I_{CBO}$	-	0.2	mA
Emitter Base Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	2	mA
Collector Emitter Sustaining Voltage at $-I_C = 30\text{ mA}$	$-V_{CEO(SUS)}$	100	-	V
Collector Emitter Saturation Voltage at $-I_C = 3\text{ A}$, $-I_B = 12\text{ mA}$ at $-I_C = 5\text{ A}$, $-I_B = 20\text{ mA}$	$-V_{CE(sat)}$	- -	2 4	V
Base Emitter Turn-On Voltage at $-I_C = 3\text{ A}$, $-V_{CE} = 3\text{ V}$	$-V_{BE(on)}$	-	2.5	V



Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

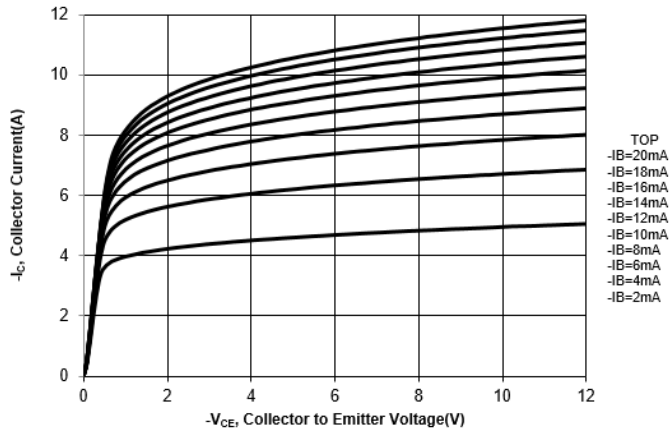


Fig. 2 Collector Current vs. Base to Emitter Voltage

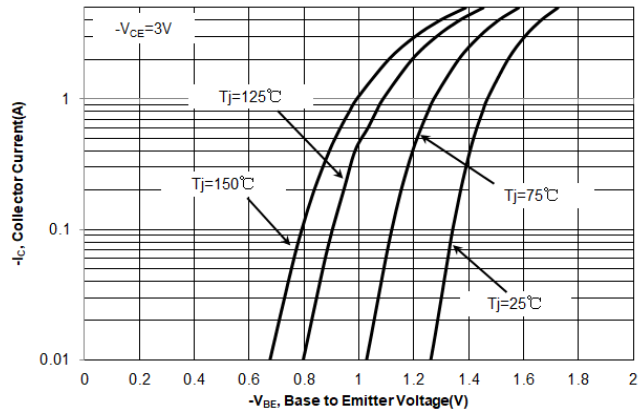


Fig. 3 $h_{FE,DC}$ Current Gain vs. Collector Current

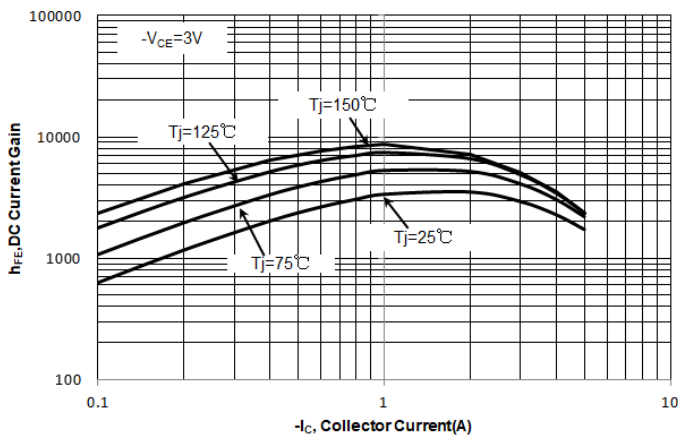
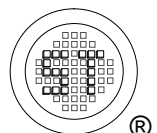
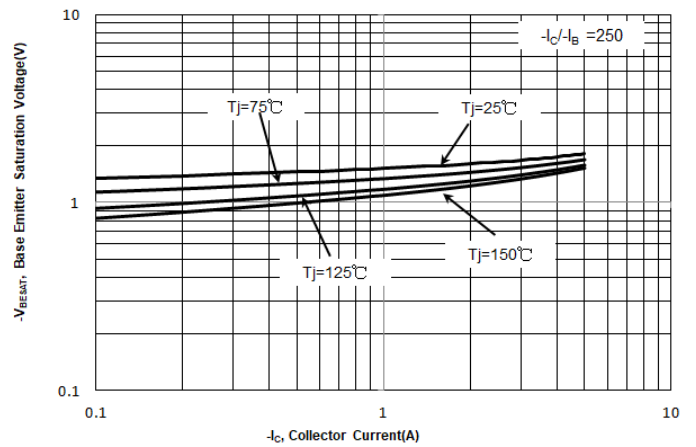


Fig. 4 V_{BESAT} vs. Collector Current



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Electrical Characteristics Curves

Fig. 5 V_{CESAT} vs. Collector Current

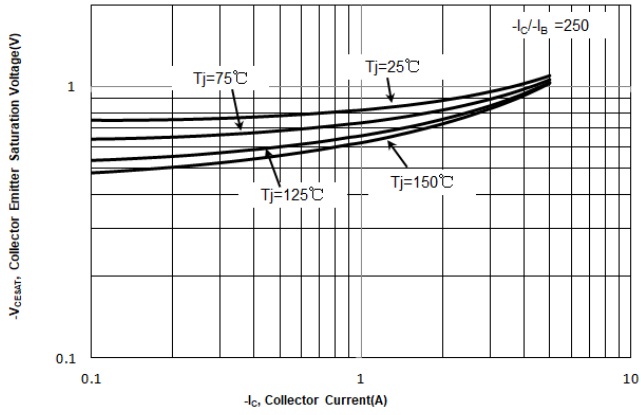


Fig. 6 Output Capacitance

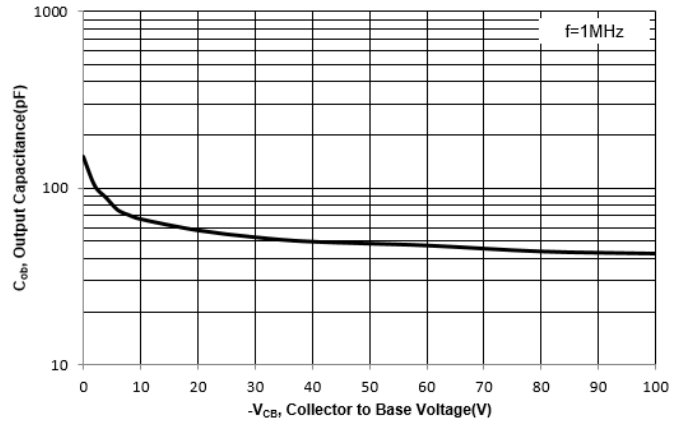
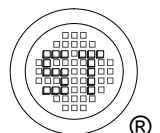
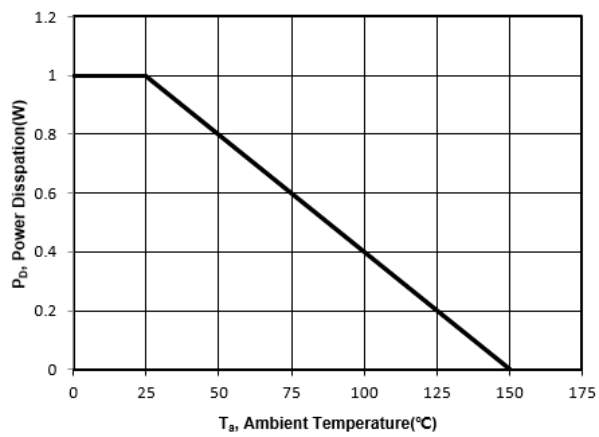


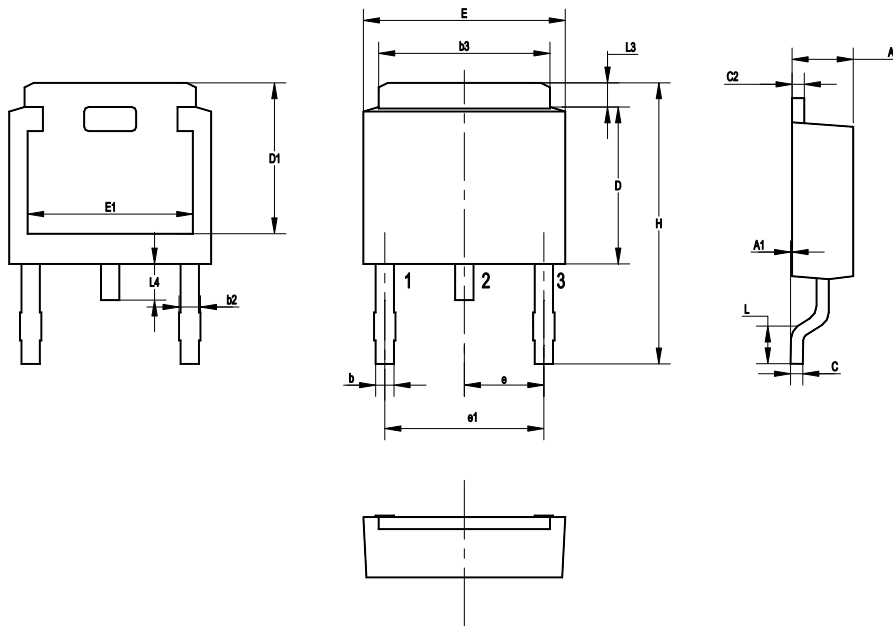
Fig. 7 Power Derating Curve



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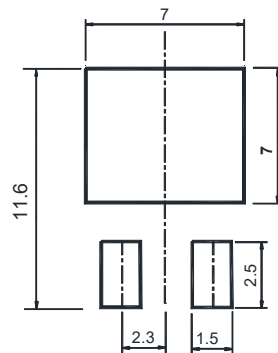
Package Outline (Dimensions in mm)

TO-252



UNIT	A	A1	b	b2	b3	C	C2	D	D1	E	E1	e	e1	H	L	L3	L4
mm	2.5	0.15	1.0	1.15	5.5	0.65	0.65	6.2	5.4	6.7	5.0	2.30	4.60	10.7	1.78	1.20	1.10
	2.1	0	0.5	0.65	4.9	0.4	0.4	5.6	5.0	6.1	4.6	TYP.	TYP.	9	1.40	0.85	0.51

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
TO-252	16	8 ± 0.1	0.315 ± 0.004	330	13	2,500

Marking information

" TIP127R " = Part No.

" ***** " = Date Code Marking

Font type: Arial

