

GSTD882

NPN Epitaxial Planar Transistors

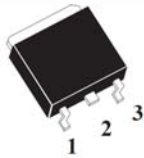
Product Description

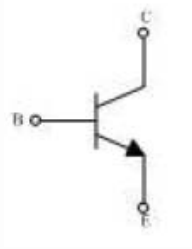
This device is designed as a general purpose amplifier and switch.

Features

- Lead(Pb)-Free

Packages & Pin Assignments

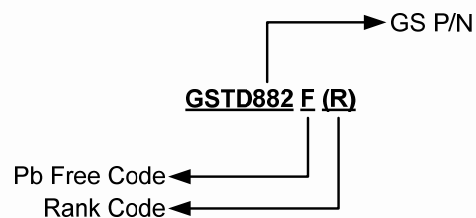
TO-252	
	
Pin	Description
1	Base
2	Collector
3	Emitter



Marking Information

P/N	Package	Rank	Part Marking
GSTD882F	TO-252	(R) / (O) / (Y) / (GR)	D882

Ordering Information



Part Number	Package	Quantity
GSTD882F(R or O or Y or GR)	TO-252	2500 PCS

Absolute Maximum Ratings

$T_A=25^{\circ}\text{C}$

Symbol	Conditions	Typical	Unit
V_{CEO}	Collector-Emitter Voltage	30	V
V_{CBO}	Collector-Base Voltage	40	V
V_{EBO}	Emitter-Base Voltage	5.0	V
$I_{C(DC)}$	Collector Current (DC)	3.0	A
$I_{C(Pulse)}$	Collector Current (Pulse) (1)	7.0	A
$I_{B(Pulse)}$	Base Current	0.6	A
P_D	Total Device Dissipation	$T_C=25^{\circ}\text{C}$	10
		$T_A=25^{\circ}\text{C}$	1.25
T_J	Junction Temperature Range	150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature Range	-55 to +150	$^{\circ}\text{C}$

Notes: 1. $P_W \leq 350\mu\text{s}$, duty cycle $\leq 2\%$

Electrical Characteristics

($T_A=25^{\circ}\text{C}$ unless otherwise noted)

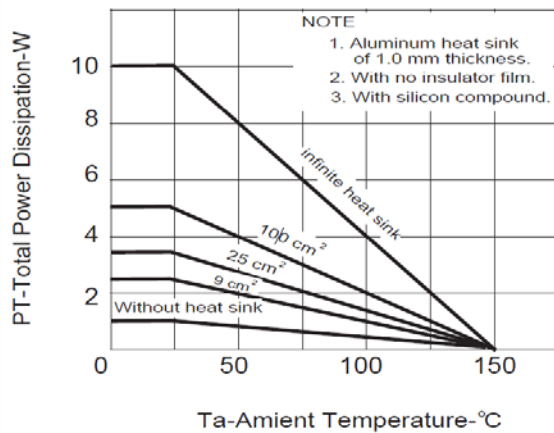
Symbol	Conditions	Min	TYP	Max	Unit
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C=10\text{mA}$, $I_B=0\text{mA}$)	30	-	-	V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=100\mu\text{A}$, $I_E=0\text{mA}$)	40	-	-	V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=100\mu\text{A}$, $I_C=0\text{mA}$)	5.0	-	-	V
I_{CEO}	Collector Cutoff Current ($V_{CE}=30\text{V}$, $I_B=0\text{mA}$)	-	-	1.0	μA
I_{CBO}	Collector Cutoff Current ($V_{CB}=40\text{V}$, $I_E=0\text{mA}$)	-	-	1.0	μA
I_{EBO}	Emitter Cutoff Current ($V_{EB}=6.0\text{V}$, $I_C=0\text{mA}$)	-	-	1.0	μA
$h_{FE(1)}$	DC Current Gain ($I_C=1.0\text{A}$, $V_{CE}=2.0\text{V}$)	60	-	400	-
$h_{FE(2)}$	DC Current Gain ($I_C=100\text{mA}$, $V_{CE}=2.0\text{V}$)	32	-	-	-
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=2.0\text{A}$, $I_B=0.2\text{mA}$)	-	-	0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=2.0\text{A}$, $I_B=0.2\text{mA}$)	-	-	2.0	V
f_T	Current-Gain-Bandwidth Product ($I_C=0.1\text{mA}$, $V_{CE}=5.0\text{V}$, $f=10\text{MHz}$)	-	90	-	MHz

Classification of $h_{FE(1)}$

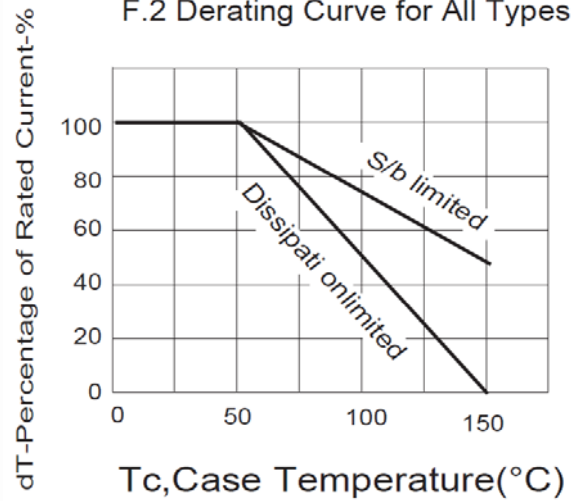
Rank	R	O	Y	GR
Range	60-120	100-200	160-320	200-400

Typical Performance Characteristics

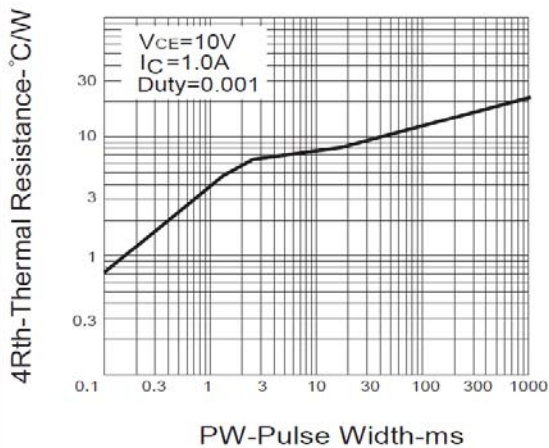
F1. Total Power Dissipation VS. Ambient Temperature



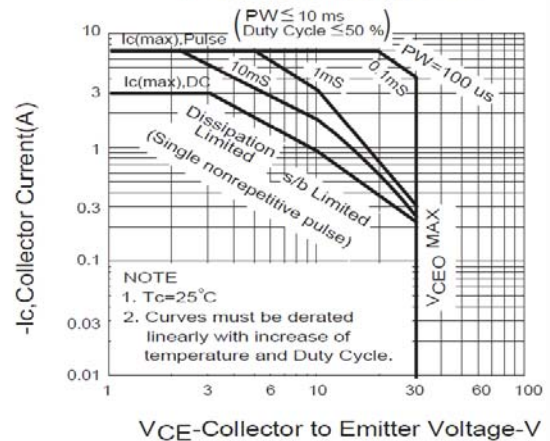
F.2 Derating Curve for All Types



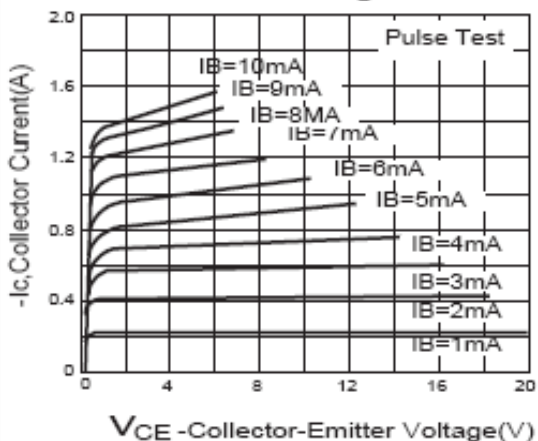
F3. Thermal Resistance VS. Pulse Width



F4. Safe Operating Areas

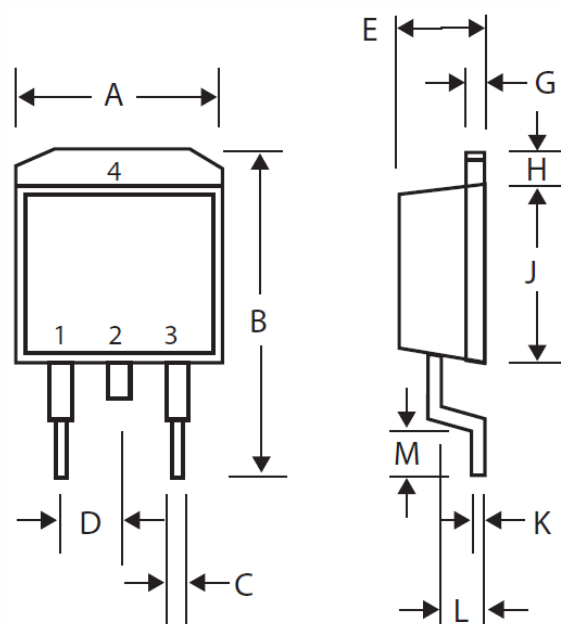


F6. Collector Current VS. Collector To Emitter Voltage



Package Dimension

TO-252



Dimensions

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	6.40	6.80	0.251	0.267
B	9.00	10.00	0.354	0.393
C	0.50	0.80	0.019	0.031
D	-	2.30	-	0.090
E	2.20	2.50	0.086	0.098
G	0.45	0.55	0.017	0.021
H	1.00	1.60	0.039	0.062
J	5.40	5.80	0.212	0.228
K	0.30	0.64	0.011	0.025
L	0.70	1.70	0.027	0.066
M	0.90	1.50	0.035	0.059

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