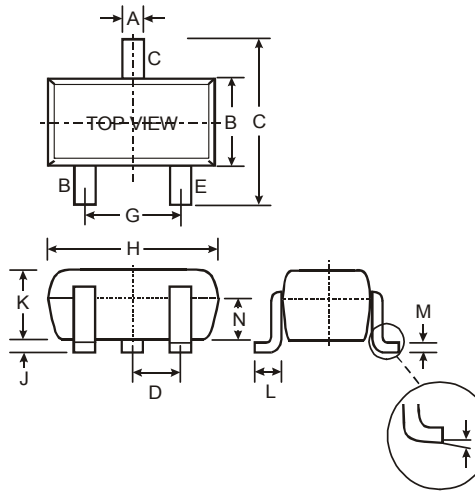


Features

- Epitaxial Planar Die Construction
- Complementary NPN Types Available (DDTC)
- Built-In Biasing Resistor, R2 only
- **Lead Free/RoHS Compliant (Note 2)**
- **"Green" Device (Note 3 and 4)**

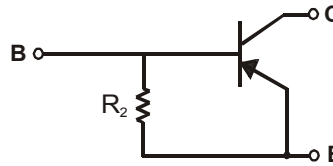
Mechanical Data

- Case: SOT-523
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Terminal Connections: See Diagram
- Marking & Date Code Information: See Diagrams & Page 4
- Ordering Information: See Page 4
- Weight: 0.002 grams (approximate)



SOT-523			
Dim	Min	Max	Typ
A	0.15	0.30	0.22
B	0.75	0.85	0.80
C	1.45	1.75	1.60
D	—	—	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
J	0.00	0.10	0.05
K	0.60	0.80	0.75
L	0.10	0.30	0.22
M	0.10	0.20	0.12
N	0.45	0.65	0.50
α	0°	8°	—
All Dimensions in mm			

P/N	R2 (NOM)	MARKING
DDTA114GE	10K Ω	P26
DDTA124GE	22K Ω	P27
DDTA144GE	47K Ω	P28
DDTA115GE	100K Ω	P29



SCHMATIC DIAGRAM

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C (Max)	-100	mA
Power Dissipation	P_d	150	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	833	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	$^\circ\text{C}$

- Notes:
1. Mounted on FR4 PC Board with recommended pad layout as shown on Diodes Inc., suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 2. No purposefully added lead.
 3. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 4. Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage		BV _{CB0}	-50	—	—	V	I _C = -50μA
Collector-Emitter Breakdown Voltage		BV _{CEO}	-50	—	—	V	I _C = -1mA
Emitter-Base Breakdown Voltage		BV _{EBO}	5	—	—	V	I _E = -720μA, DDTA114GE I _E = -330μA, DDTA124GE I _E = -160μA, DDTA144GE I _E = -72μA, DDTA115GE
Collector Cutoff Current		I _{CB0}	—	—	-0.5	μA	V _{CB} = -50V
Emitter Cutoff Current	DDTA114GE DDTA124GE DDTA144GE DDTA115GE	I _{EBO}	-300 -140 -65 -30	—	-580 -260 -130 -58	μA	V _{EB} = -4V
Collector-Emitter Saturation Voltage		V _{CE(sat)}	—	—	-0.3	V	I _C = -10mA, I _B = -0.5mA
DC Current Transfer Ratio	DDTA114GE DDTA124GE DDTA144GE DDTA115GE	h _{FE}	30 56 68 82	—	—	—	I _C = -5mA, V _{CE} = -5V
Bleeder Resistor (R ₂) Tolerance		ΔR ₂	-30	—	+30	%	—
Gain-Bandwidth Product*		f _T	—	250	—	MHz	V _{CE} = -10V, I _E = 5mA, f = 100MHz

* Transistor - For Reference Only

Typical Curves – DDTA114GE

NEW PRODUCT

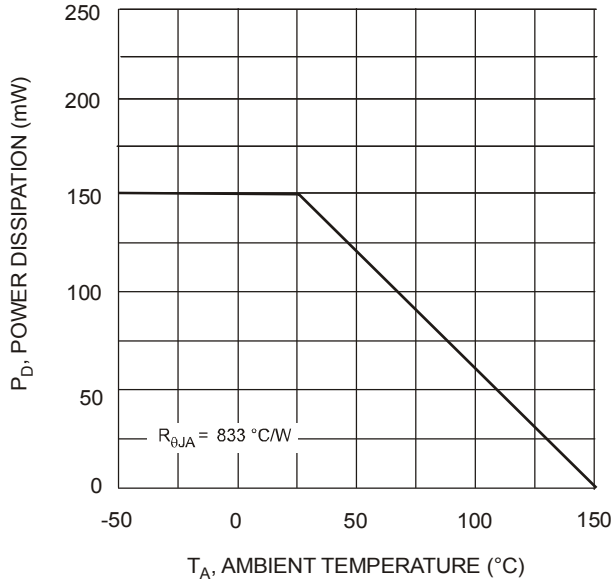


Fig. 1 Derating Curve

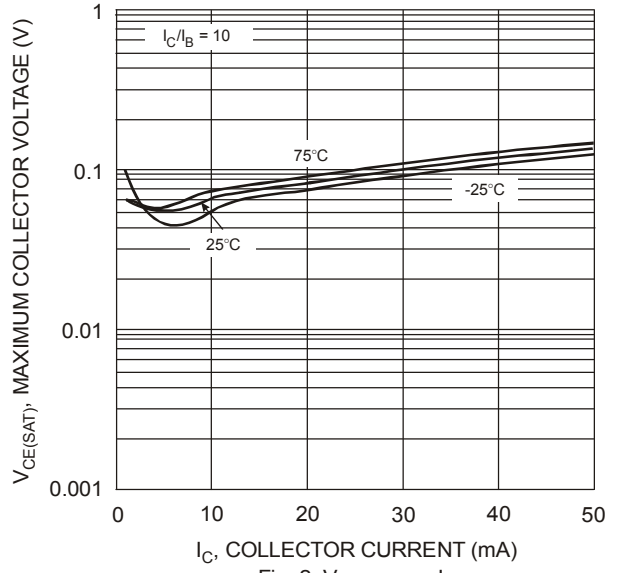


Fig. 2 $V_{CE(SAT)}$ vs. I_C

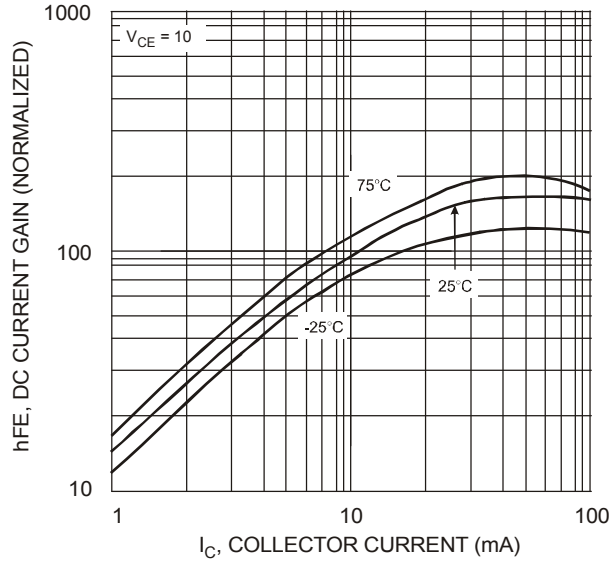


Fig. 3 DC Current Gain

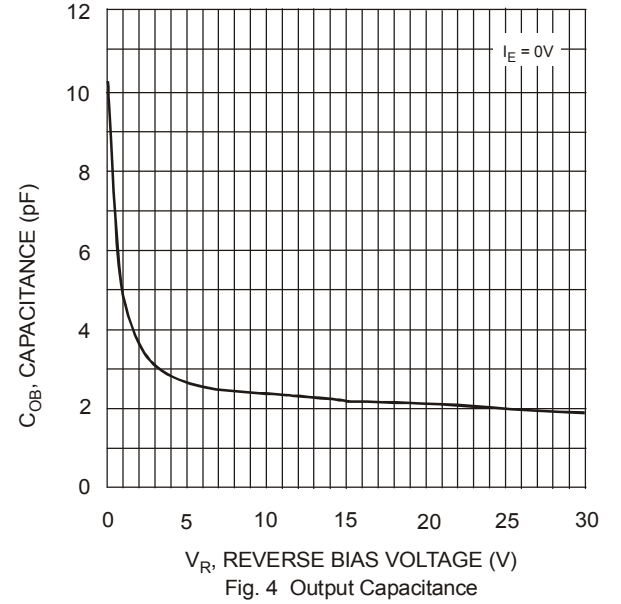


Fig. 4 Output Capacitance

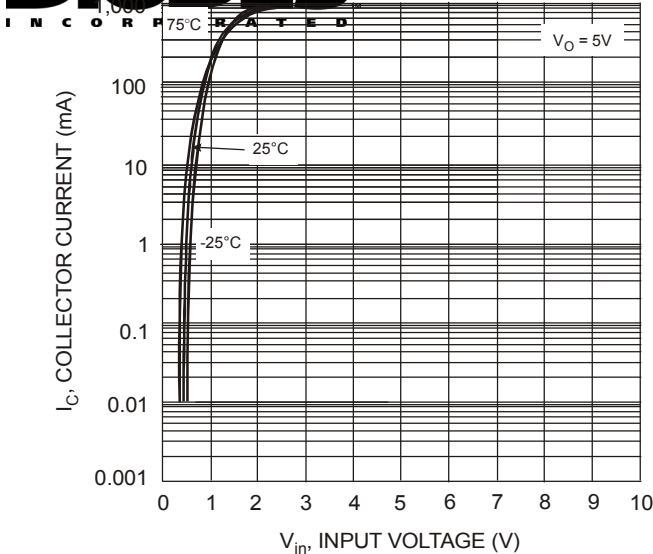


Fig. 5 Collector Current vs. Input Voltage

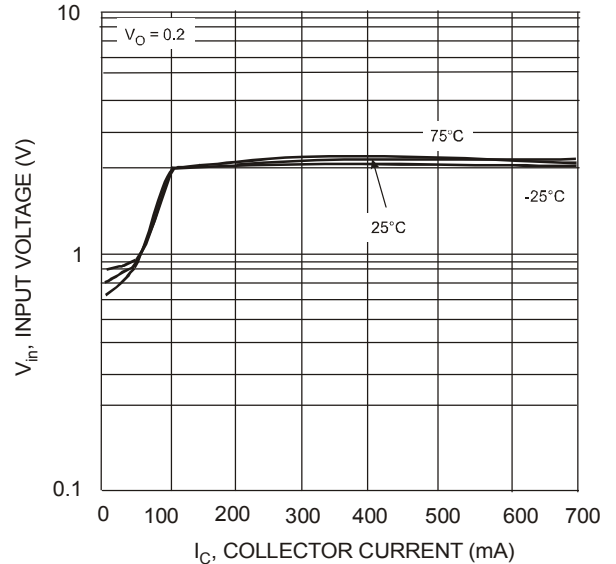


Fig. 6 Input Voltage vs. Collector Current

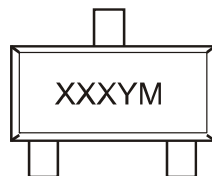
NEW PRODUCT

Ordering Information (Note 5)

Device	Packaging	Shipping
DDTA114GE-7-F	SOT-523	3000/Tape & Reel
DDTA124GE-7-F	SOT-523	3000/Tape & Reel
DDTA144GE-7-F	SOT-523	3000/Tape & Reel
DDTA115GE-7-F	SOT-523	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



XXX = Product Type Marking Code (See Page 1, e.g. P26 = DDTA114GE)
 YM = Date Code Marking
 Y = Year ex: T = 2006
 M = Month ex: 9 = September

Date Code Key

Year	2006	2007	2008	2009	2010	2011	2012
Code	T	U	V	W	X	Y	Z

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.