

B DDTC (R2-ONLY SERIES) KA

NPN PRE-BIASED SMALL SIGNAL SC-59 SURFACE MOUNT TRANSISTOR

Features

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

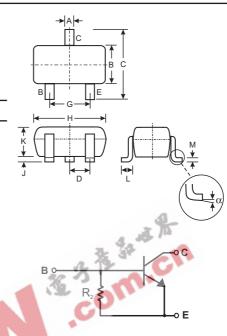
Mechanical Data

- Case: SC-59
- Case Material: Molded Plastic, "Green" Molding Compound, Note 4. 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 Copper leadframe).
- Terminal Connections: See Diagram
- Marking: Date Code and Type Code (See Table Below & Page 2)
- Ordering Information (See Page 2)
- Weight: 0.006 grams (approximate)

P/N DDTC114GKA

DDTC124GKA

DDTC144GKA



SC-59								
Dim	Min	Max						
Α	0.35	0.50						
В	1.50	1.70						
С	2.70	3.00						
D	0.	95						
G	1.90							
н	2.90	3.10						
J	0.013	0.10						
к	1.00	1.30						
L	0.35	0.55						
М	0.10	0.20						
α	0° 8°							
All Dimensions in mm								

SCHEMATIC DIAGRAM

D	DTC115GKA	1	00ΚΩ		N29		
						_	
Maxi	mum Ratings	@	$T_A = 25$	°C u	nless oth	erwise spec	ified

R2 (NOM)

10KΩ

22KΩ

47KΩ

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	Pd	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	R _{θJA}	625	°C/W
Operating and Storage and Temperature Range	T _j , T _{STG}	-55 to +150	°C

Note: 1. Mounted on FR4 PC Board with recommended pad layout at http://www.diodes.com/datasheets/ap02001.pdf.

Type Code

N26

NI28

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 0609 (week 9, 2006) and newer are built with Green Molding Compound. Product manufactured prior to Date Code 0609 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	Тур	Мах	Unit	Test Condition	
Collector-Base Breakdown Voltage		BV _{CBO}	50			V	$I_{\rm C} = 50 \mu A$
Collector-Emitter Breakdown Volta		BVCEO	50			v	$I_{\rm C} = 1$ mA
Emitter-Base Breakdown Voltage		BV _{EBO}	5			V	$ \begin{array}{l} I_{E} = 720\mu A, \mbox{ DDTC114GKA} \\ I_{E} = 330\mu A, \mbox{ DDTC124GKA} \\ I_{E} = 160\mu A, \mbox{ DDTC144GKA} \\ I_{E} = 72\mu A, \mbox{ DDTC115GKA} \end{array} $
Collector Cutoff Current	Collector Cutoff Current				0.5	μA	V _{CB} = 50V
Emitter Cutoff Current	DDTC114GKA DDTC124GKA DDTC144GKA DDTC115GKA	I _{EBO}	300 140 65 30		580 260 130 58	μΑ	$V_{EB} = 4V$
Collector-Emitter Saturation Voltage		V _{CE(sat)}			0.3	V	$I_{C} = 10 mA, I_{B} = 0.5 mA$
DC Current Transfer Ratio DDTC114GKA DDTC124GKA DDTC144GKA DDTC144GKA DDTC115GKA		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⊤		250	_	MHz	$V_{CE} = 10V, I_E = -5mA,$ f = 100MHz

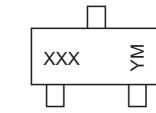
* Transistor - For Reference Only

ering Information (Note 4 & 5)	7. 3°	-
	23	C.
Device	Packaging	Shipping
DDTC114GKA-7-F	SC-59	3000/Tape & Reel
DDTC124GKA-7-F	SC-59	3000/Tape & Reel
DDTC144GKA-7-F	SC-59	3000/Tape & Reel
DDTC115GKA-7-F	SC-59	3000/Tape & Reel

Notes: 4. Product manufactured with Date Code 0609 (week 9, 2006) and newer are built with Green Molding Compound. Product manufactured prior Date Code 0609 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

5. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



XXX = Product Type Marking Code, See Table on Page 1 YM = Date Code MarkingY = Year ex: N = 2002

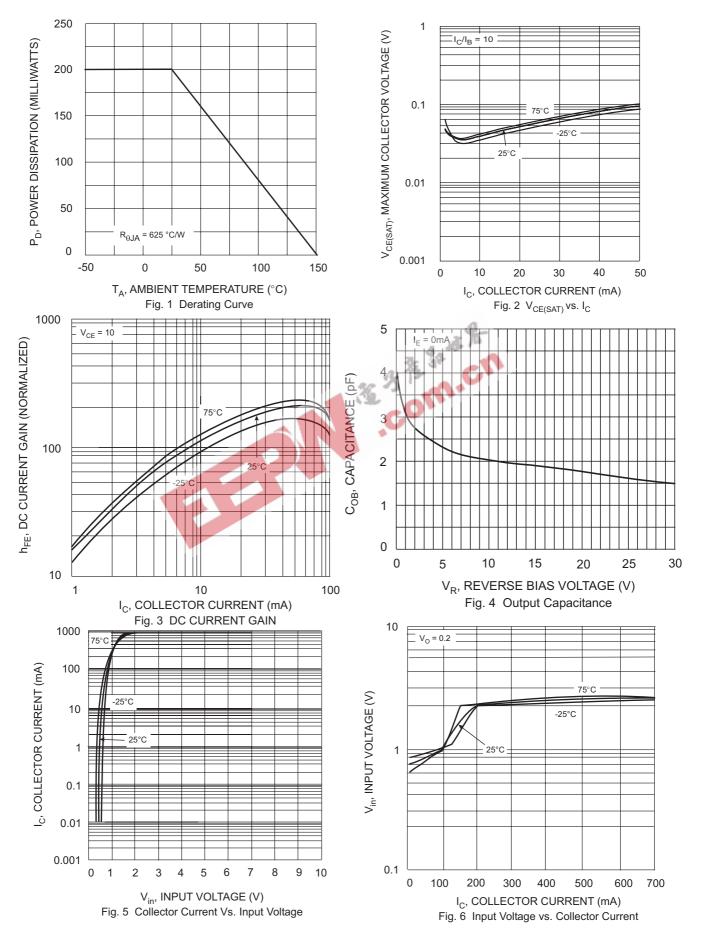
M = Month ex: 9 = September

Date Code Key

Year	200	2	2003	200	94	2005	200	6	2007	2008		2009
Code	N		Р	R		S	Т		U	V		W
Month	Jan	Feb	March	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D



TYPICAL CURVES - DDTC114GKA



NEW PRODUCT



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