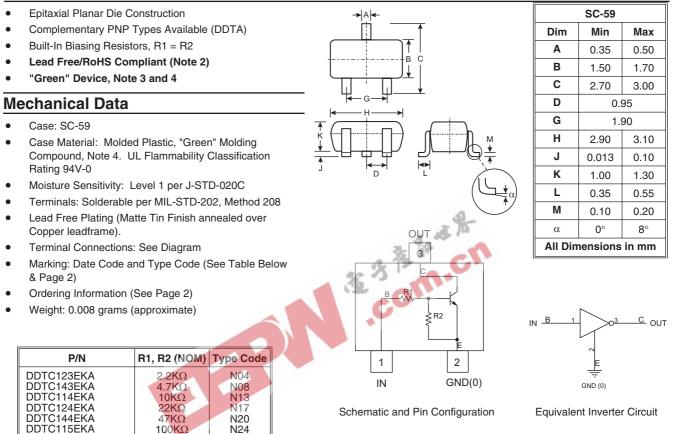




DDTC (R1 = R2 SERIES) KA

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

Features



Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteri	stic	Symbol	Value	Unit		
Supply Voltage, (3) to (2)		V _{CC}	50	V		
Input Voltage, (1) to (2)	DDTC123EKA DDTC143EKA DDTC114EKA DDTC124EKA DDTC124EKA DDTC144EKA DDTC115EKA	Vin	-10 to +12 -10 to +30 -10 to +40 -10 to +40 -10 to +40 -10 to +40	V		
Output Current	DDTC123EKA DDTC143EKA DDTC114EKA DDTC124EKA DDTC124EKA DDTC144EKA DDTC115EKA	lo	100 100 50 30 100 20	mA		
Output Current	All	I _C (Max)	100	mA		
Power Dissipation		Pd	200	mW		
Thermal Resistance, Junction to A	mbient Air (Note 1)	R _{0JA}	625	°C/W		
Operating and Storage and Tempe	erature Range	T _i , 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.

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

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition	
	V _{I(off)}	0.5	1.1	_		$V_{CC} = 5V, I_{O} = 100 \mu A$	
Input Voltage	V _{l(on)}		1.9	3	V	$\begin{array}{l} V_{O}=0.3V,\ I_{O}=20mA,\ DDTC123EKA\\ V_{O}=0.3V,\ I_{O}=20mA,\ DDTC143EKA\\ V_{O}=0.3V,\ I_{O}=10mA,\ DDTC114EKA\\ V_{O}=0.3V,\ I_{O}=5mA,\ DDTC124EKA\\ V_{O}=0.3V,\ I_{O}=2mA,\ DDTC144EKA\\ V_{O}=0.3V,\ I_{O}=1mA,\ DDTC115EKA\\ \end{array}$	
Output Voltage	V _{O(on)}		0.1	0.3	v	I _O /I _I =10mA/0.5mA, DDTC123EKA I _O /I _I =10mA/0.5mA, DDTC143EKA I _O /I _I =10mA/0.5mA, DDTC114EKA I _O /I _I =10mA/0.5mA, DDTC124EKA I _O /I _I =10mA/0.5mA, DDTC144EKA I _O /I _I =5mA/0.25mA, DDTC115EKA	
Input Current	DDTC123EKA DDTC143EKA DDTC114EKA DDTC124EKA DDTC124EKA DDTC144EKA DDTC115EKA	h		_	3.8 1.8 0.88 0.36 0.18 0.15	mA	V _I = 5V
Output Current		I _{O(off)}			0.5	μA	$V_{CC}=50V,V_I=0V$
DC Current Gain	DDTC123EKA DDTC143EKA DDTC114EKA DDTC124EKA DDTC124EKA DDTC144EKA DDTC115EKA	GI	20 20 30 56 68 82	_		A.	$ \begin{array}{l} V_{O}=5V,\ I_{O}=20mA\\ V_{O}=5V,\ I_{O}=10mA\\ V_{O}=5V,\ I_{O}=5mA\\ V_{O}=5V,\ I_{O}=5mA\\ V_{O}=5V,\ I_{O}=5mA\\ V_{O}=5V,\ I_{O}=5mA\\ \end{array} $
Input Resistor (R1) Tolerance		ΔR_1	-30		+30	%	· -
Resistance Ratio		R ₂ /R ₁	0.8	人で	1.2	C)	_
Gain-Bandwidth Product*		f _T	32	250	17	MHz	$V_{CE} = 10V$, $I_E = 5mA$, f = 100MHz
Transistor - For Reference Only				0			

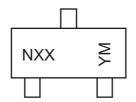
Ordering Information (Note 4 & 5)

Device	Packaging	Shipping
DDTC123EKA-7-F	SC-59	3000/Tape & Reel
DDTC143EKA-7-F	SC-59	3000/Tape & Reel
DDTC114EKA-7-F	SC-59	3000/Tape & Reel
DDTC124EKA-7-F	SC-59	3000/Tape & Reel
DDTC144EKA-7-F	SC-59	3000/Tape & Reel
DDTC115EKA-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 to Date Code 0609 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

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

Marking Information



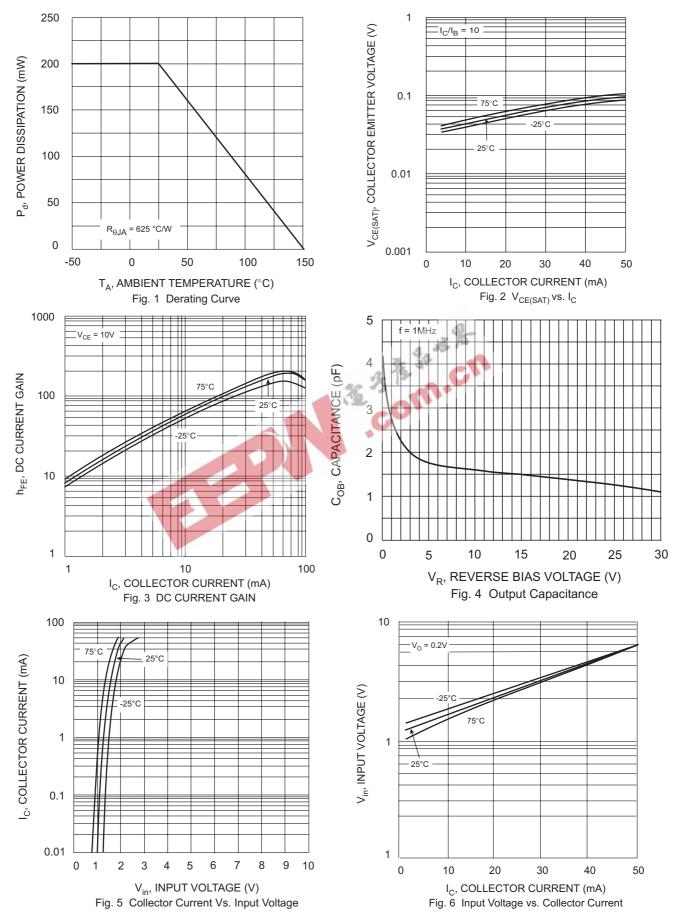
NXX = Product Type Marking Code, See Table on Page 1 YM = Date Code Marking Y = Year ex: T = 2006 M = Month ex: 9 = September

Date Code Key

Year	2002	2003	2004	2005	2006	200	7 20	08 2	009	2010	2011	2012
Code	N	Р	R	S	Т	U	\	/	W	Х	Y	Z
Month	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D



TYPICAL CURVES - DDTC143EKA





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