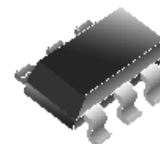


RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

- DTC144E Series CR and DTA144E Series CR transistors are Built-in a Package
- Transistor Elements are Independent, Eliminating Interference
- Mounting Cost and Area be Cut in Half
- Qualified to AEC-Q101 Standards for High Reliability

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MARKING

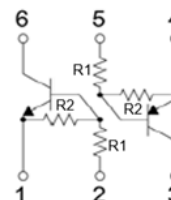
D3

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-363	3K	7 inch

ORDER INFORMATION

Part Number	Type
UMD3NCR-C	Lead (Pb)-free and Halogen-free



ABSOLUTE MAXIMUM RATINGS (NPN) ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	-10~40	
Output Current	I_O	50	mA
Peak Collector Current	I_C	100	
Power Dissipation	P_D	150	mW
Operating Junction & Storage Temperature Range	T_J, T_{STG}	-55~150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (NPN) ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Input Voltage	$V_{I(off)}$	0.5	-	-	V	$V_{CC}=5V, I_O=100\mu A$
	$V_{I(on)}$	-	-	3		$V_O=0.3V, I_O=10mA$
Output Voltage	$V_{O(on)}$	-	-	0.3		$I_O/I_I=10mA/0.5mA$
Input Current	I_I	-	-	0.88	mA	$V_I=5V$
Output Current	$I_{O(off)}$	-	-	0.5	μA	$V_{CC}=50V, V_I=0$
DC Current Gain	G_I	30	-	-	V	$V_O=5V, I_O=5mA$
Input Resistance	R_1	7	10	13	k Ω	
Resistance Ratio	R_2/R_1	0.8	1	1.2		
Transition Frequency	f_T	-	250	-	MHz	$V_{CE}=10V, I_E=5mA, f=100MHz$

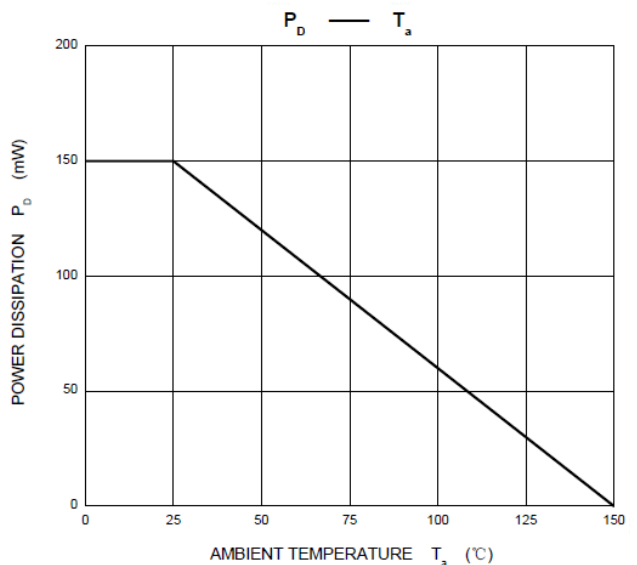
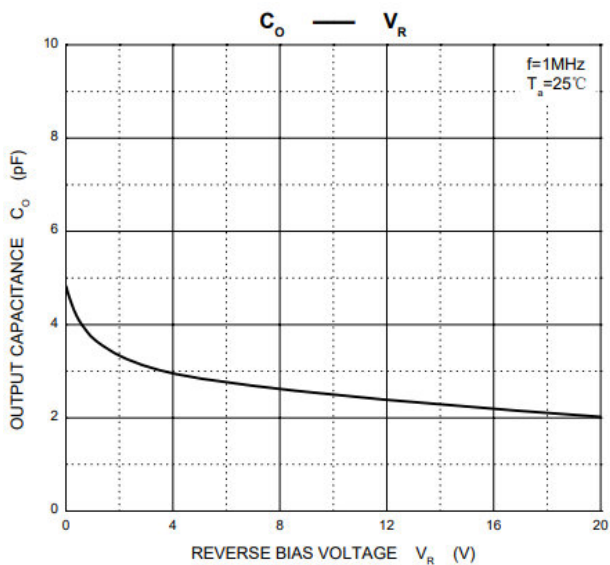
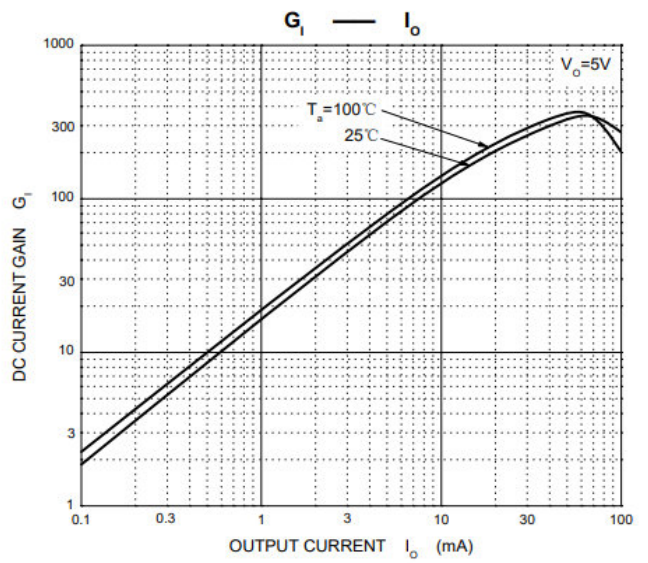
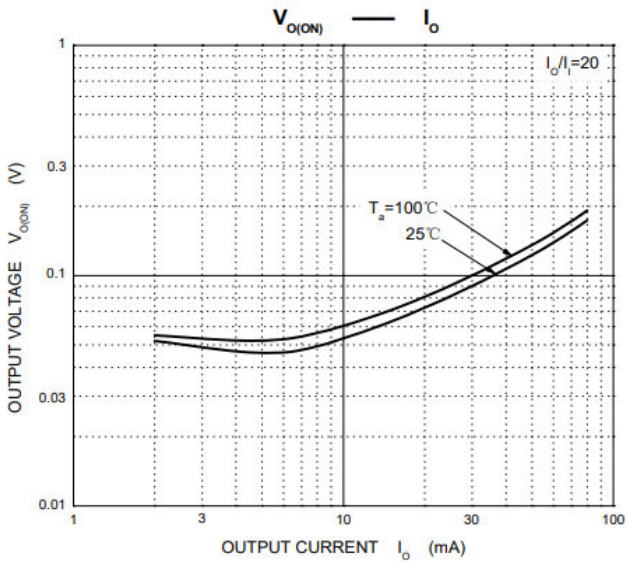
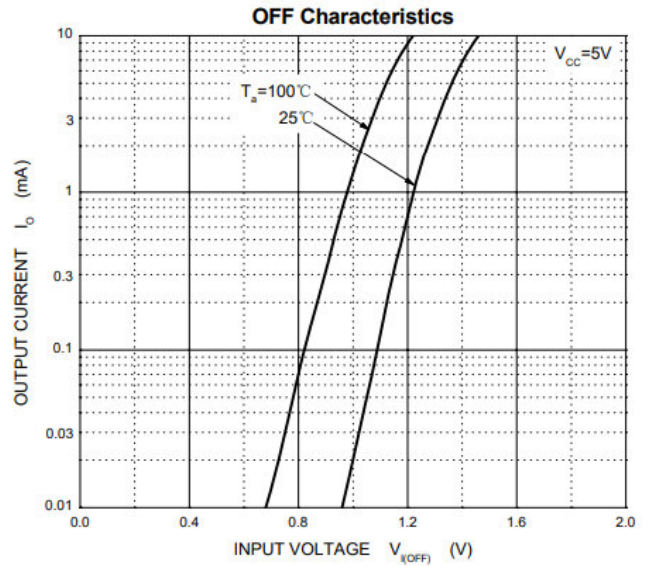
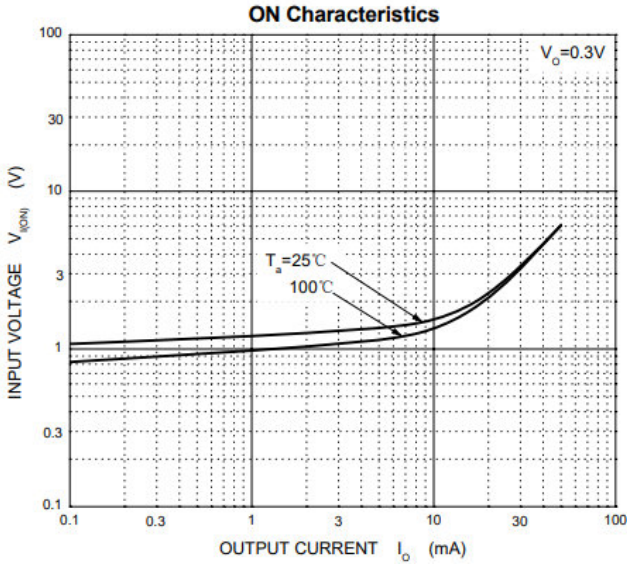
ABSOLUTE MAXIMUM RATINGS (PNP) ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	-50	V
Input Voltage	V_{IN}	-40~10	
Output Current	I_O	-50	mA
Peak Collector Current	I_C	-100	
Power Dissipation	P_D	150	mW
Operating Junction & Storage Temperature Range	T_J, T_{STG}	-55~150	$^\circ\text{C}$

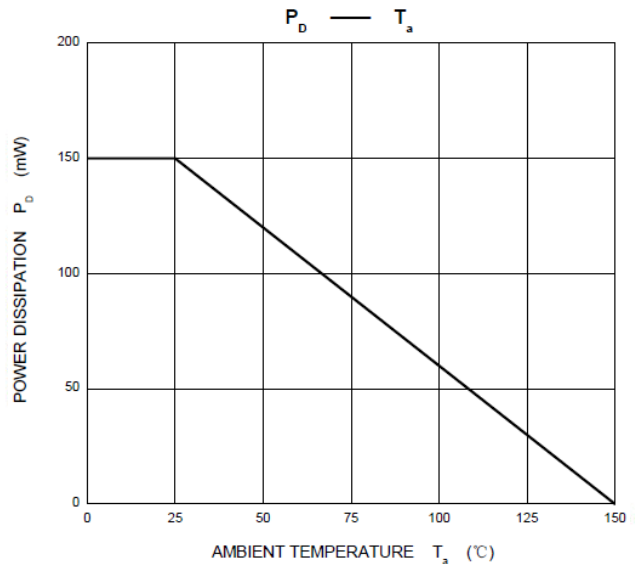
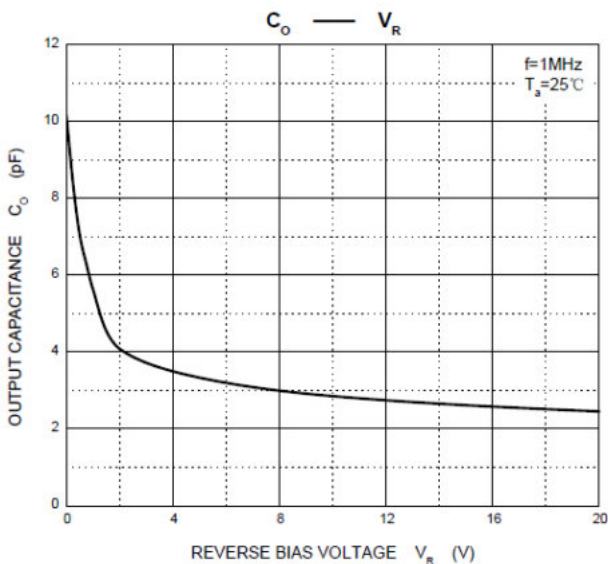
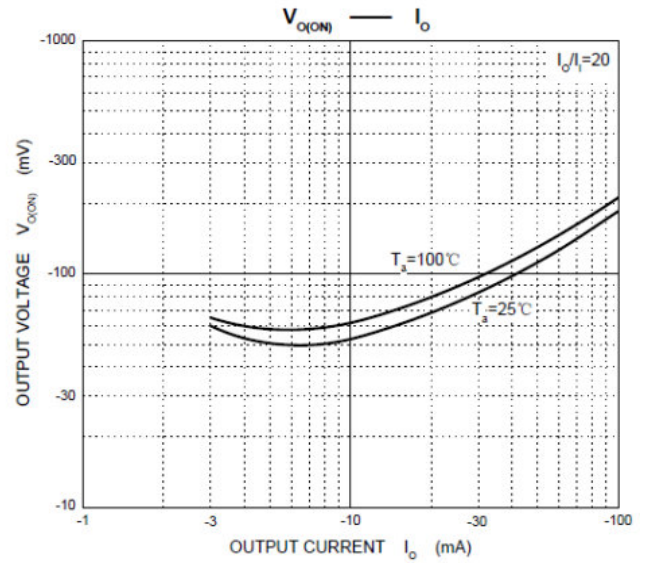
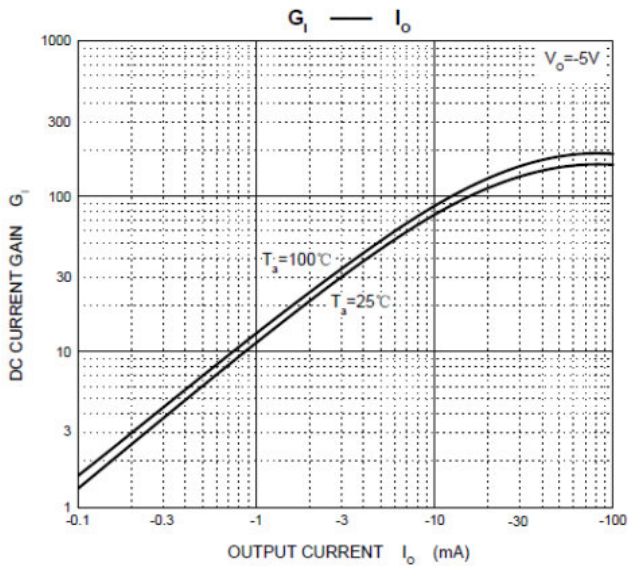
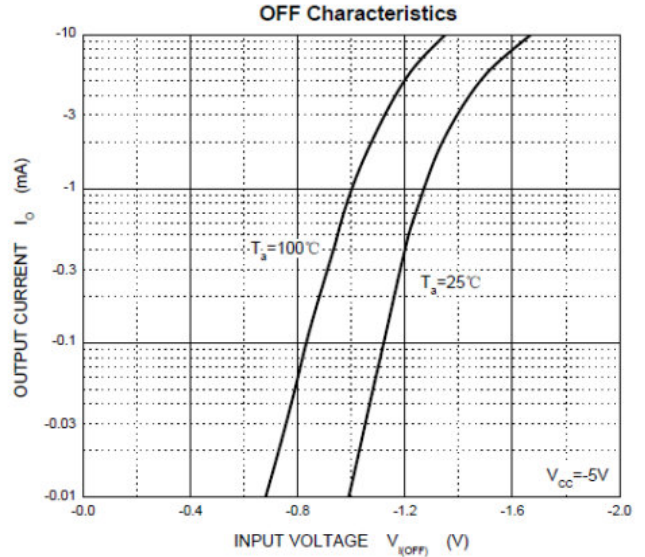
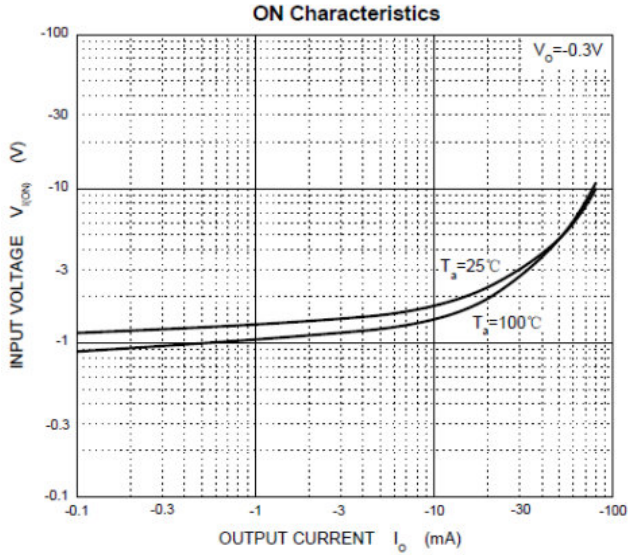
ELECTRICAL CHARACTERISTICS (PNP) ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Input Voltage	$V_{I(off)}$	-0.5	-	-	V	$V_{CC} = -5V, I_O = -100\mu\text{A}$
	$V_{I(on)}$	-	-	-3		$V_O = -0.3V, I_O = -10\text{mA}$
Output Voltage	$V_{O(on)}$	-	-	-0.3		$I_O/I_I = -10\text{mA} / -0.5\text{mA}$
Input Current	I_I	-	-	-0.88	mA	$V_I = -5V$
Output Current	$I_{O(off)}$	-	-	-0.5	μA	$V_{CC} = -50V, V_I = 0$
DC Current Gain	G_I	30	-	-	V	$V_O = -5V, I_O = -5\text{mA}$
Input Resistance	R_1	7	10	13	k Ω	
Resistance Ratio	R_2/R_1	0.8	1	12		
Transition Frequency	f_T	-	250	-	MHz	$V_{CE} = -10V, I_E = -5\text{mA}, f = 100\text{MHz}$

CHARACTERISTICS CURVE (NPN)

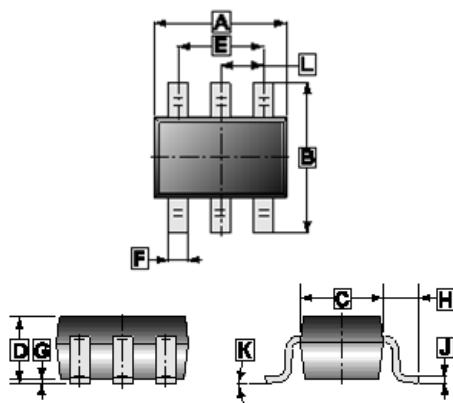


CHARACTERISTICS CURVE (PNP)



PACKAGE OUTLINE DIMENSIONS

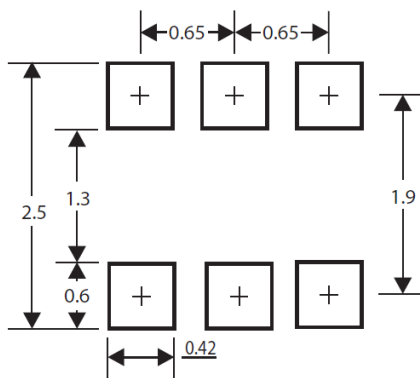
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REF.	Millimeter	
	Min.	Max.
A	1.80	2.20
B	1.80	2.45
C	1.15	1.35
D	0.70	1.10
E	1.30 REF.	
F	0.10	0.35
G	0.10 REF.	
H	0.525 REF.	
J	0.05	0.25
K	8°	
L	0.65 TYP.	

MOUNTING PAD LAYOUT

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*Dimensions in millimeters