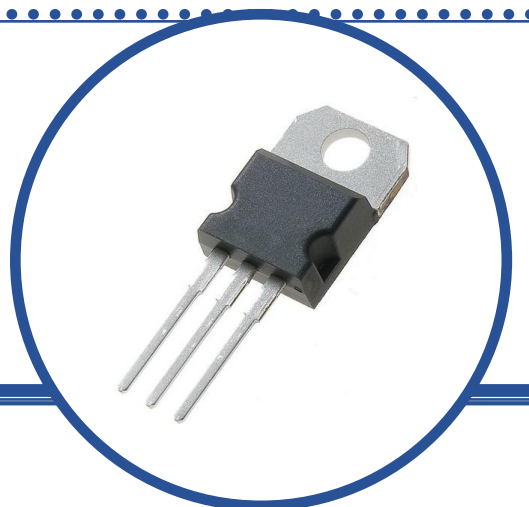


SILICON NPN POWER DARLINGTON TRANSISTOR



BDT63CX-MAG.R

- NPN Epitaxial base transistor
- Monolithic Darlington circuit
- Applications include audio output stages, general purposes amplifiers and switching

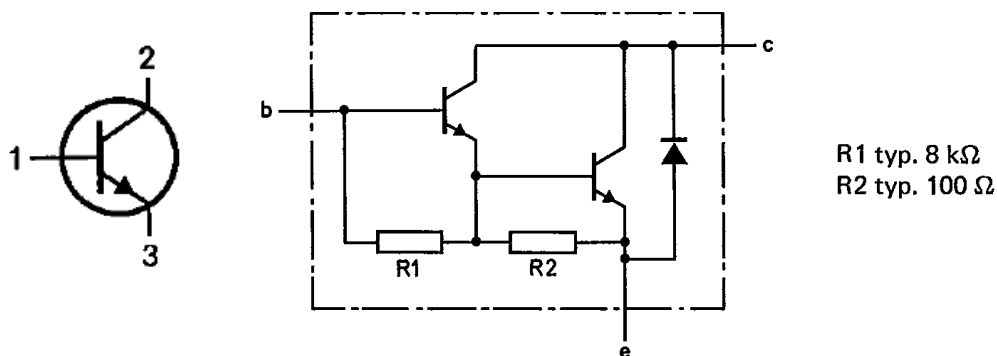


ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise stated)

			Unit
V_{CBO}	Collector-Base Voltage	115	V
V_{CEO}	Collector-Emitter Voltage	115	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	10	A
I_{CM}	Collector Current (Peak)	15	A
I_B	Base Current (DC)	250	mA
P_D	Total Device Dissipation	90	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65 to 150	$^\circ\text{C}$

SCHEMATIC

And equivalent circuit



R1 typ. 8 k Ω
R2 typ. 100 Ω

Magnatec reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Magnatec is believed to be both accurate and reliable at the time of going to press. However Magnatec assumes no responsibility for any errors or omissions discovered in its use. Magnatec encourages customers to verify that datasheets are current before placing orders.

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Issue 1

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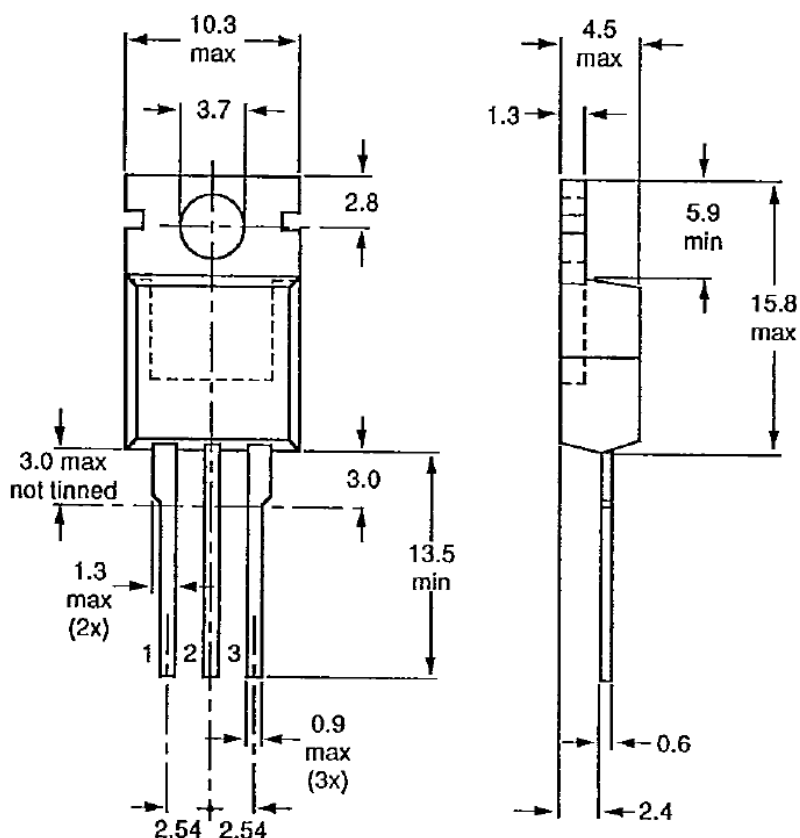
SILICON NPN POWER TRANSISTOR BDT63CX-MAG.R

ELECTRICAL CHARACTERISTICS ($T_j = 25^\circ\text{C}$ unless otherwise stated)

Symbols	Parameters	Test Conditions	Min	Typ	Max	Units
I_{CBO}	Collector cut-off Current	$V_{CB} = V_{CB0max}$ $I_E = 0$			0.2	mA
		$V_{CB} = \frac{1}{2} V_{CB0max}$ $I_E = 0$ $T_j = 150^\circ\text{C}$			2.0	
I_{CEO}	Collector cut-off Current	$V_{CE} = \frac{1}{2} V_{CE0max}$ $I_B = 0$			0.5	
I_{EBO}	Emitter cut-off Current	$V_{EB} = 5V$ $I_C = 0$			5.0	
$I_{(SB)}$	Forward bias second breakdown collector current	$V_{CE} = 60V$ (without heatsink) $I_E = 0$ $t = 0.1s$	1.5			A
h_{FE}	DC Current Gain	$I_C = 3A$ $V_{CE} = 3V$	1000			
		$I_C = 10A$ $V_{CE} = 3V$		3000		
V_{BE}	Base-Emitter Voltage	$I_C = 3A$ $V_{CE} = 3V$			2.5	V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 3A$ $I_B = 12mA$			2	
		$I_C = 8A$ $I_B = 80mA$			2.5	
V_F	Forward Voltage	$I_F = 3A$			2	
C_{ob}	Collector Capacitance	$V_{CB} = 10V$ $I_E = I_e = 0$		100		pF
t_{on}	Switching times	$I_{Con} = 3A$		1.0	2.5	μs
t_{off}		$I_{Bon} = -I_{Boff} = 12mA$		5.0	10.0	
h_{fe}	Small signal current gain	$I_C = 3A$; $V_{CE} = 3V$; $f = 1MHz$	25			

MECHANICAL

Dimensions in mm



Package Type TO220