BCX38CSTOB Datasheet

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DiGi Electronics Part Number	BCX38CSTOB-DG
Manufacturer	Diodes Incorporated
Manufacturer Product Number	BCX38CSTOB
Description	TRANS NPN DARL 60V 0.8A E-LINE
Detailed Description	Bipolar (BJT) Transistor NPN - Darlington 60 V 800 m A 1 W Through Hole E-Line (TO-92 compatible)

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Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
BCX38CSTOB	Diodes Incorporated
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
NPN - Darlington	800 mA
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
60 V	1.25V @ 8mA, 800mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
100nA (ICBO)	10000 @ 500mA, 5V
Power - Max:	Frequency - Transition:
1 W	-
Operating Temperature:	Mounting Type:
-55°C ~ 200°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
E-Line-3	E-Line (TO-92 compatible)
Base Product Number:	
BCX38	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.29.0095	

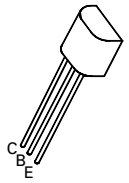
NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTORS

BCX38A/B/C

ISSUE 1 – MARCH 94

FEATURES

* 60 Volt V_{CEO}
* Gain of 10K at I_C=0.5 Amp
* P_{tot}=1 Watt



E-Line
TO92 Compatible

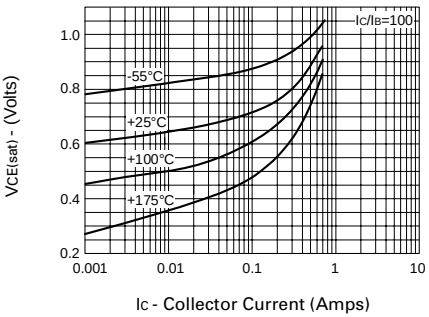
ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	10	V
Peak Pulse Current	I_{CM}	2	A
Continuous Collector Current	I_C	800	mA
Power Dissipation at T_{amb}=25°C	P_{tot}	1	W
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +200	°C

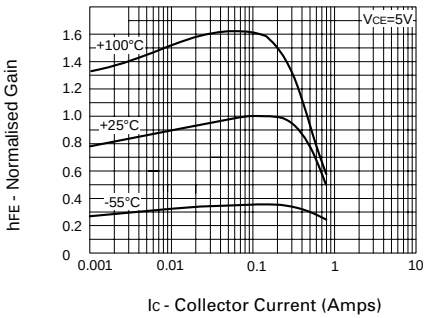
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C).

PARAMETER		SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	80			V	I_C=10μA, I_E=0
Collector-Emitter Sustaining Voltage		$V_{CEO(sus)}$	60			V	I_C=10mA, I_B=0
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	10			V	I_E=10μA, I_C=0
Collector Cut-Off Current		I_{CBO}			100	nA	V_{CB}=60V, I_E=0
Emitter Cut-Off Current		I_{EBO}			100	nA	V_{EB}=8V, I_C=0
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$			1.25	V	I_C=800mA, I_B=8mA*
Base-Emitter Turn-on Voltage		$V_{BE(on)}$			1.8	V	I_C=800mA, V_{CE}=5V*
Static Forward Current Transfer Ratio	BCX38A	h_{FE}	500 1000				I_C=100mA, V_{CE}=5V* I_C=500mA, V_{CE}=5V*
	BCX38B		2000 4000				I_C=100mA, V_{CE}=5V* I_C=500mA, V_{CE}=5V*
	BCX38C		5000 10000				I_C=100mA, V_{CE}=5V* I_C=500mA, V_{CE}=5V*

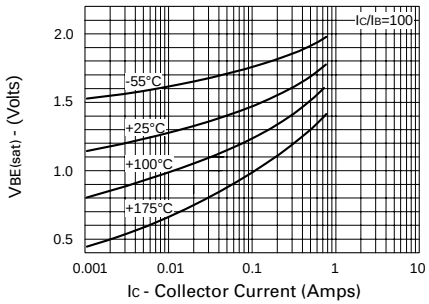
TYPICAL CHARACTERISTICS



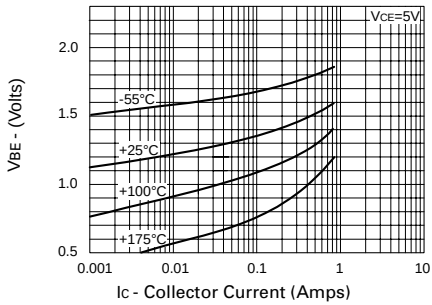
VCE(sat) v IC



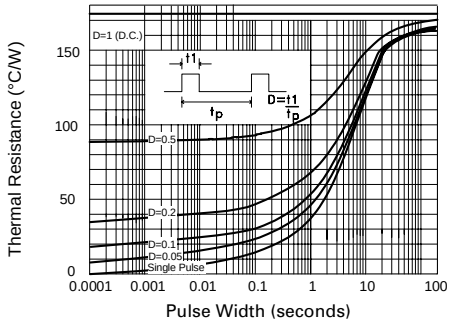
hFE v IC



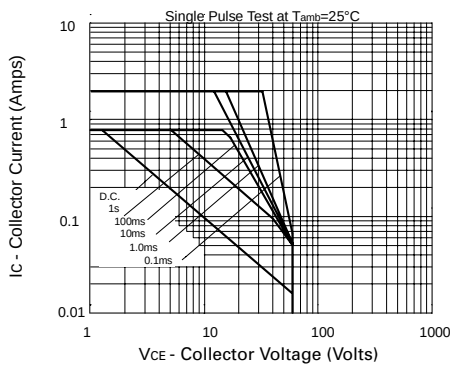
VBE(sat) v IC



VBE(on) v IC

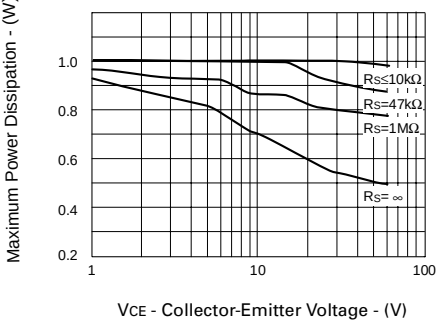


Maximum transient thermal impedance



Safe Operating Area

BCX38A/B/C



The maximum permissable operational temperature can be obtained using the equation:

$$T_{amb(max)} = \frac{Power(max) - Power(actual)}{0.0057} + 25°C$$

$T_{amb(max)}$= Maximum operating ambient temperature

Power (max) = Maximum power dissipation figure, for a given V_{CE} and source resistance (R_S)

Power (actual) = Actual power dissipation in users circuit

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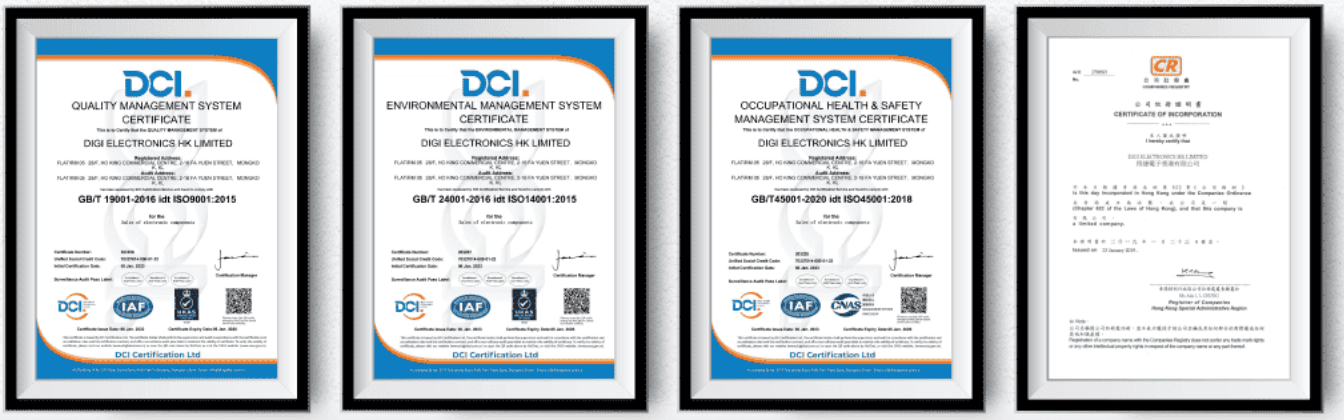

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