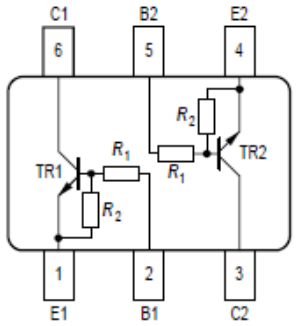
NPN Silicon Digital Transistor BCR135S

FEATURES

- Switching circuit, inverter, interface circuit, driver circuit.
- Built in bias resistor (*R*1=10kΩ, *R*2=47kΩ).
- Two internally isolated transistors with good matching in one multichip package.
- For orientation in reel see package information below.
- Qualified according AEC Q101.

Lead-free



SOT-363

ORDERING INFORMATION

Type No.	Marking	Package Code
BCR135S	WJs	SOT-363

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	**Parameter**	**Value**	**Unit**
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	50	V
Vi(fwd)	Input forward voltage	40	V
Vi(rev)	Input reverse voltage	6	V
I_C	Collector current	100	mA
P_D	Power Dissipation	250	mW
R_{thJS}	Thermal Resistance, Junction - soldering point	140	K/W
T_j, T_{stg}	Junction and Storage Temperature	-65 to +150	℃

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=10μA ,I_E=0	50	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=100μA ,I_B=0	50	-	-	V
Collector cut-off current	I_{CBO}	V_{CB}=40V,I_E=0	-		100	nA
Emitter-base cutoff current	I_{EBO}	V_{EB}=6V,I_E=0	-		167	uA
DC current gain	h_{FE}	V_{CE}=5V,I_C=5mA	70	-	-	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=10mA ,I_B=0.5mA	-	-	0.3	V
Input off voltage	Vi(off)	I_C=100μA,V_{CE}=5V	0.5	-	1	V
Input on voltage	Vi(on)	I_C=2mA,V_{CE}=0.3V	0.5	-	1.4	V
Input resistor	R1	-	7	10	13	kΩ
Resistor ratio	R1/R2	-	0.19	0.21	0.24	-
Transition frequency	f_T	V_{CE}=5V,I_C=10mA f=100MHz	-	150	-	MHz
Collector-base Capacitance	Ccb	V_{CB}=10V,f=1.0MHz	-	3	-	pF

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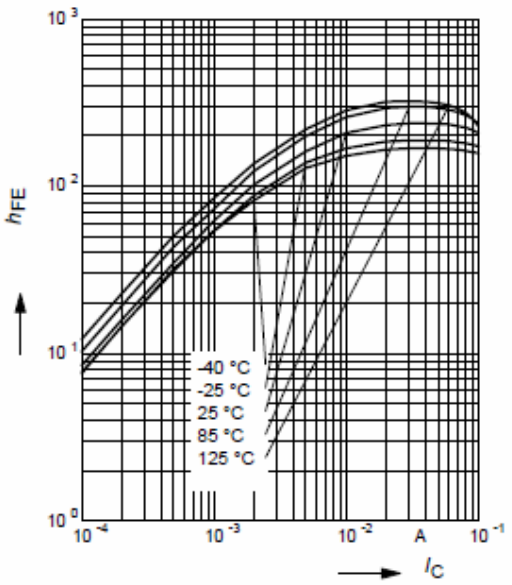
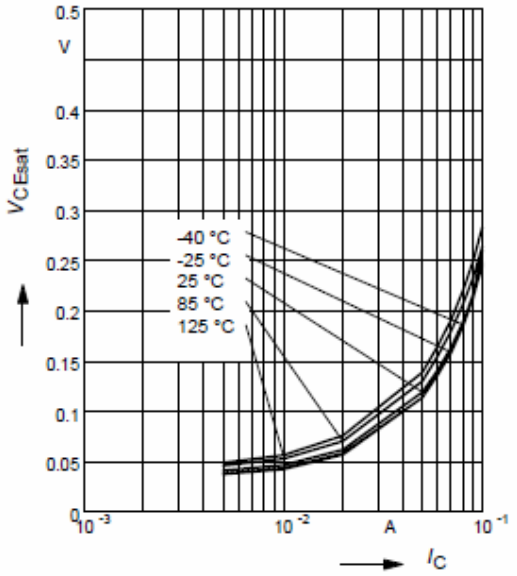
TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified



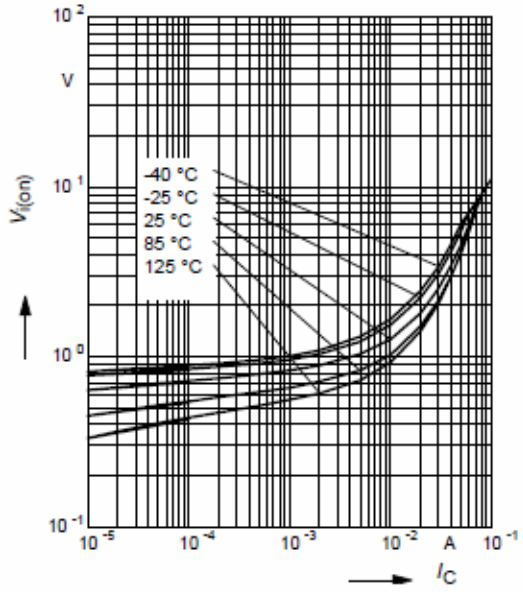
DC current gain $h_{FE} = f(I_C)$

V_{CE} = 5V (common emitter configuration)



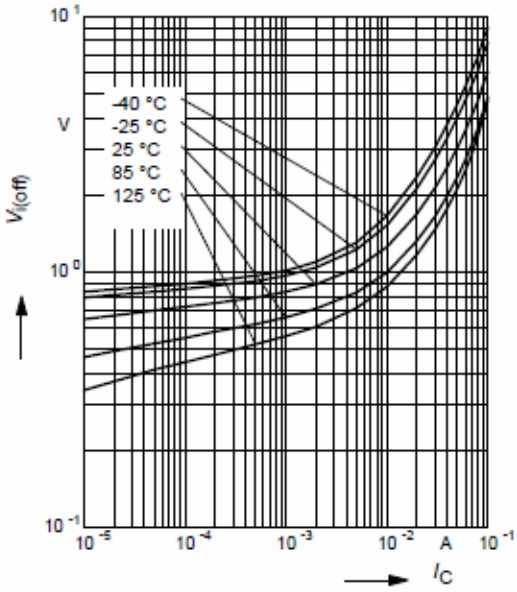
Collector-emitter saturation voltage

$V_{CEsat} = f(I_C)$, $I_C/I_B = 20$



Input on Voltage $V_{i(on)} = f(I_C)$

V_{CE} = 0.3V (common emitter configuration)



Input off voltage $V_{i(off)} = f(I_C)$

V_{CE} = 5V (common emitter configuration)

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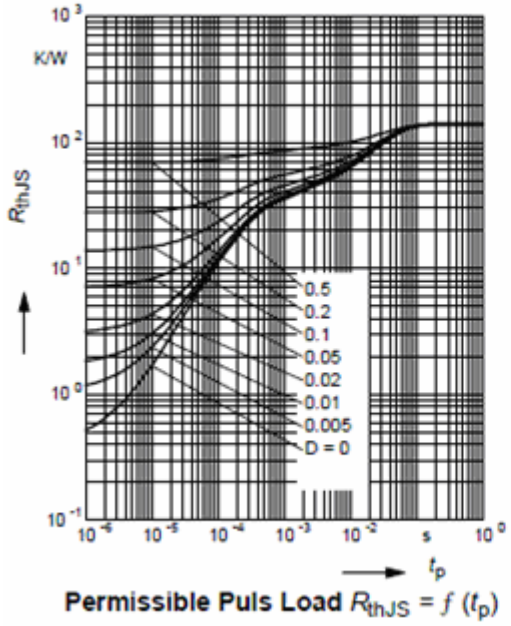
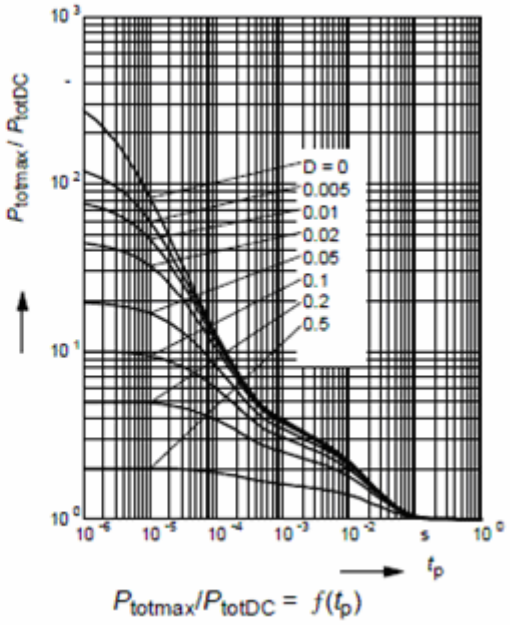
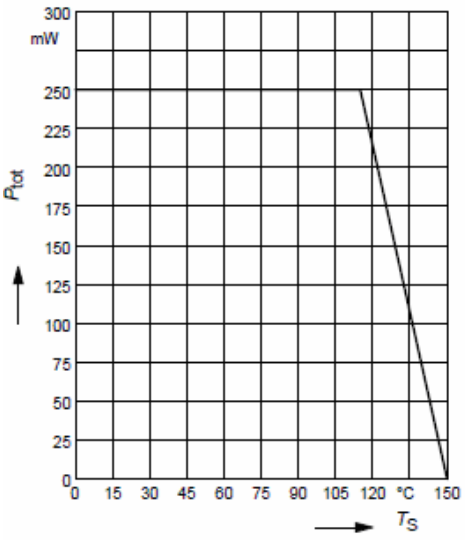


Permissible Puls Load $R_{thJS} = f(t_p)$



$P_{totmax}/P_{totDC} = f(t_p)$



Total power dissipation $P_{tot} = f(T_S)$

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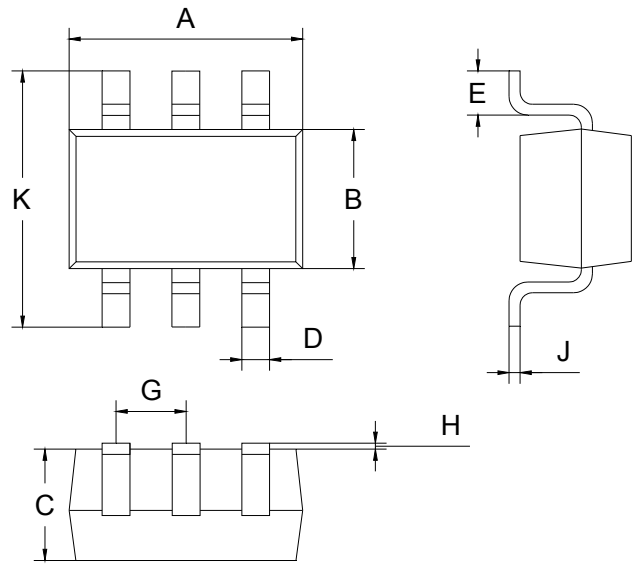
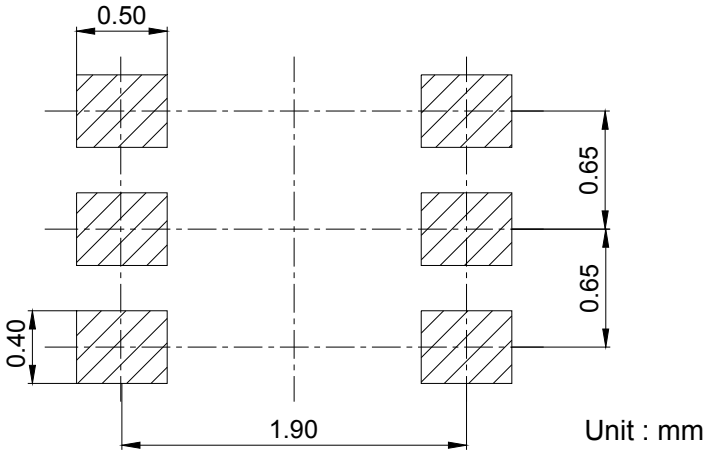
PACKAGE OUTLINE

Plastic surface mounted package SOT-363



SOT-363		
Dim	Min	Max
A	2.00	2.20
B	1.15	1.35
C	0.95 Typical	
D	0.25 Typical	
E	0.25	0.40
G	0.60	0.70
H	0.02	0.10
J	0.10 Typical	
K	2.2	2.4
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
BCR135S	SOT-363	3000/Tape&Reel