BC636/638/640　　　　PNP EPITAXIAL SILICON TRANSISTOR

SWITCHING AND AMPLIFIER APPLICATIONS
• Complement to BC635/637/639

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

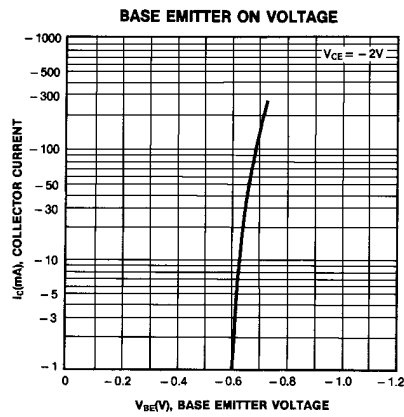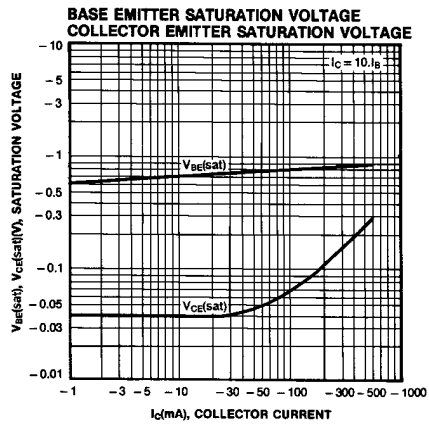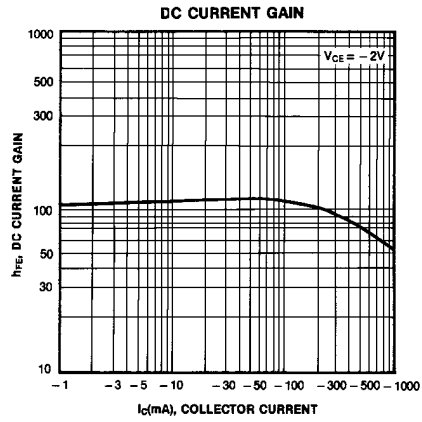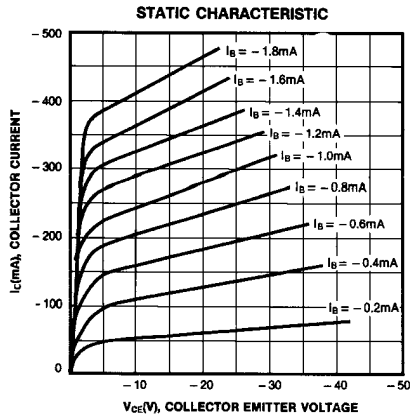| Characteristic		Symbol	Rating	Unit
Collector Emitter Voltage	: BC636	V_{CER}	-45	V
at R_{BE}=1Kohm	: BC638		-60	V
	: BC640		-100	V
Collector Emitter Voltage	: BC636	V_{CES}	-45	V
	: BC638		-60	V
	: BC640		-100	V
Collector Emitter Voltage	: BC636	V_{CEO}	-45	V
	: BC638		-60	V
	: BC640		-80	V
Emitter Base Voltage		V_{EBO}	-5	V
Collector Current		I_C	-1	A
Peak Collector Current		I_{CP}	-1.5	A
Base Current		I_B	-100	mA
Collector Dissipation		P_C	1	W
Junction Temperature		T_J	150	°C
Storage Temperature		T_{STG}	-65 ~ 150	°C

TO-92
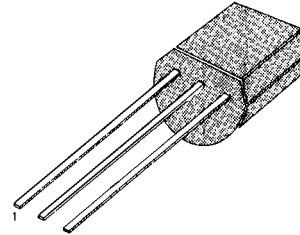
1. Emitter 2. Collector 3. Base

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C= -10mA, I_B=0				V
: BC636			-45			V
: BC638			-60			V
: BC640			-80			V
Collector Cut-off Current	I_{CBO}	V_{CB}= -30V, I_E=0			-0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}= -5V, I_C=0			-0.1	μA
DC Current Gain	h_{FE}	V_{CE}= -2V, I_C= -5mA	25			
: BC635		V_{CE}= -2V, I_C= -150mA	40		250	
: BC637/BC639			40		160	
		V_{CE}= -2V, I_C= -500mA	25			
Collector Emitter Saturation Voltage	V_{CE} (sat)	I_C= -500mA, I_B= -50mA			-0.5	V
Base Emitter On Voltage	V_{BE} (on)	V_{CE}= -2V, I_C= -500mA			-1	V
Current Gain Bandwidth Product	f_T	V_{CE}= -5V, I_C= -10mA, f=50MHz		100		MHz

STATIC CHARACTERISTIC

$I_B = -1.8mA$
$I_B = -1.6mA$
$I_B = -1.4mA$
$I_B = -1.2mA$
$I_B = -1.0mA$
$I_B = -0.8mA$
$I_B = -0.6mA$
$I_B = -0.4mA$
$I_B = -0.2mA$

$I_C(mA)$, COLLECTOR CURRENT

$V_{CE}(V)$, COLLECTOR EMITTER VOLTAGE

DC CURRENT GAIN

$V_{CE} = -2V$

h_{FE}, DC CURRENT GAIN

$I_C(mA)$, COLLECTOR CURRENT

**BASE EMITTER SATURATION VOLTAGE
COLLECTOR EMITTER SATURATION VOLTAGE**

$I_C = 10.I_B$

$V_{BE}(sat)$

$V_{CE}(sat)$

$V_{BE}(sat)$, $V_{CE}(sat)(V)$, SATURATION VOLTAGE

$I_C(mA)$, COLLECTOR CURRENT

BASE EMITTER ON VOLTAGE

$V_{CE} = -2V$

$I_C(mA)$, COLLECTOR CURRENT

$V_{BE}(V)$, BASE EMITTER VOLTAGE

COLLECTOR OUTPUT CAPACITANCE

$f = 1MHz$

$C_{OB}(pF)$, CAPACITANCE

$V_{CB}(V)$, COLLECTOR BASE VOLTAGE

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FASTr™	SuperSOT™-6
GTO™	SuperSOT™-8
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Definition of Terms

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