

INCHANGE Semiconductor

isc Product Specification

isc Silicon PNP Power Transistors

D45C7

DESCRIPTION

- Low Saturation Voltage
- Good Linearity of h_{FE}
- Fast Switching Speeds
- Complement to Type D44C7

APPLICATIONS

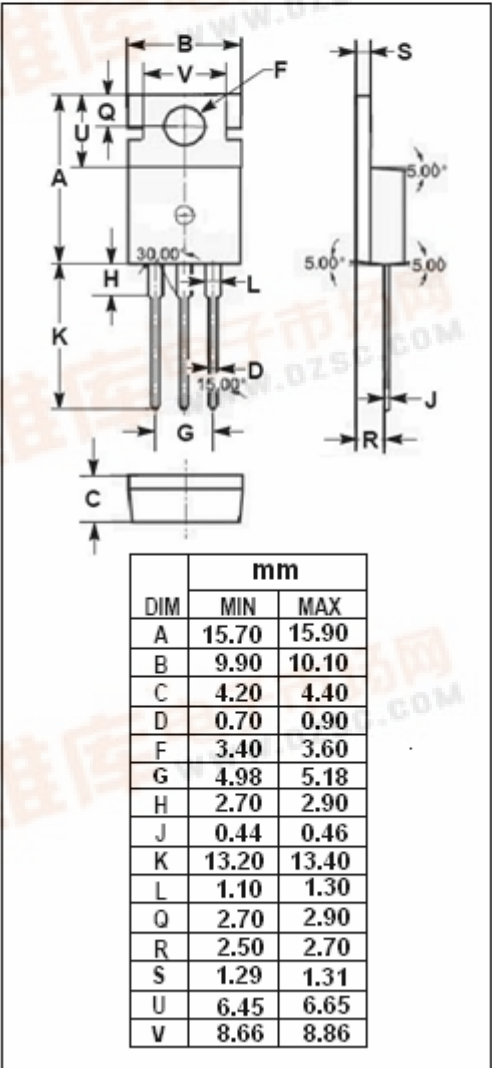
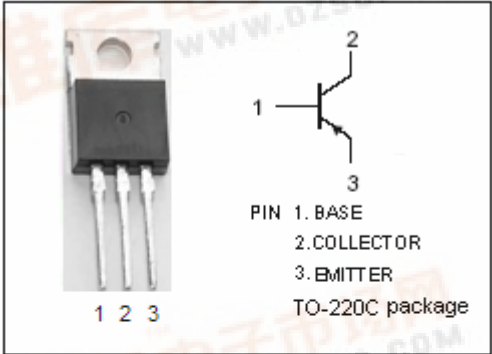
- Designed for various specific and general purpose application such as: output and driver stages of amplifiers operating at frequencies from DC to greater than 1.0MHz series, shunt and switching regulators; low and high frequency inverters/converters and many others.

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage	-70	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-4	A
I_{CM}	Collector Current-Peak	-6	A
I_B	Base Current-Continuous	-1	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}\text{C}$	30	W
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	4.2	$^{\circ}\text{C/W}$



isc Silicon PNP Power Transistors

D45C7

ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -1\text{A}; I_B = -100\text{mA}$			-0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -1\text{A}; I_B = -100\text{mA}$			-1.3	V
I_{CES}	Collector Cutoff Current	$V_{CE} = -70\text{V}$,			-10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-100	μA
h_{FE-1}	DC Current Gain	$I_C = -0.2\text{A}; V_{CE} = -1\text{V}$	25			
h_{FE-2}	DC Current Gain	$I_C = -1\text{A}; V_{CE} = -1\text{V}$	10			
f_T	Current-Gain—Bandwidth Product	$I_C = -20\text{mA}; V_{CE} = -4\text{V}; f_{test} = 1\text{MHz}$		40		MHz

Switching Times

t_r	Rise Time	$I_C = -1\text{A}; I_{B1} = -I_{B2} = -0.1\text{A}; V_{CC} = -20\text{V}$			0.2	μs
t_s	Storage Time				0.6	μs
t_f	Fall Time				0.3	μs