

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N5879 2N5880 PNP
2N5881 2N5882 NPN

COMPLIMENTARY SILICON
POWER TRANSISTORS

JEDEC TO-3 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5879, 2N5881 series types are Complimentary Silicon Power Transistors manufactured by the epitaxial base process, mounted in a hermetically sealed metal case designed for general purpose switching and amplifier applications.

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

	SYMBOL	2N5879 2N5881	2N5880 2N5882	UNIT
Collector-Base Voltage	V_{CB0}	60	80	V
Collector-Emitter Voltage	V_{CE0}	60	80	V
Emitter Base Voltage	V_{EBO}	5.0		V
Collector Current	I_C	15		A
Collector Current (PEAK)	I_{CM}	30		A
Base Current	I_B	5.0		A
Power Dissipation	P_D	160		W
Operating and Storage Junction and Temperature	T_J, T_{stg}	-65 TO +200		$^\circ\text{C}$
Thermal Resistance	θ_{JC}	1.1		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	2N5879 2N5881		2N5880 2N5882		UNIT
		MIN	MAX	MIN	MAX	
I_{CB0}	$V_{CB}=\text{RATED } V_{CB0}$		0.5		0.5	mA
I_{CEV}	$V_{CE}=\text{RATED } V_{CE0}, V_{BE}=1.5\text{V}$		0.5		0.5	mA
I_{CEV}	$V_{CE}=\text{RATED } V_{CE0}, T_C=150^\circ\text{C}$		5.0		5.0	mA
I_{CE0}	$V_{CE}=\frac{1}{2}\text{RATED } V_{CE0}$		1.0		1.0	mA
I_{EBO}	$V_{EB}=5.0\text{V}$		1.0		1.0	mA
BV_{CE0}	$I_C=200\text{mA}$	60		80		V
$V_{CE}(\text{SAT})$	$I_C=7.0\text{A}, I_B=0.7\text{A}$		1.0		1.0	V
$V_{CE}(\text{SAT})$	$I_C=15\text{A}, I_B=3.75\text{A}$		4.0		4.0	V
$V_{BE}(\text{SAT})$	$I_C=15\text{A}, I_B=3.75\text{A}$		2.5		2.5	V
$V_{BE}(\text{ON})$	$V_{CE}=4.0\text{V}, I_C=6.0\text{A}$		1.5		1.5	V
h_{FE}	$V_{CE}=4.0\text{V}, I_C=2.0\text{A}$	35		35		
h_{FE}	$V_{CE}=4.0\text{V}, I_C=6.0\text{A}$	20	100	20	100	
h_{FE}	$V_{CE}=4.0\text{V}, I_C=15\text{A}$	4.0		4.0		
h_{fe}	$V_{CE}=4.0\text{V}, I_C=2.0\text{A}, f=1.0\text{kHz}$	20		20		
f_T	$V_{CE}=10\text{V}, I_C=1.0\text{A}, f=1.0\text{MHz}$	4.0		4.0		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$ (PNP TYPES)		600		600	pF
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$ (NPN TYPES)		400		400	pF
t_r	$V_{CC}=30\text{V}, I_C=6.0\text{A}, I_{B1}=I_{B2}=0.6\text{A}$		0.7		0.7	μs
t_s	$V_{CC}=30\text{V}, I_C=6.0\text{A}, I_{B1}=I_{B2}=0.6\text{A}$		1.0		1.0	μs
t_f	$V_{CC}=30\text{V}, I_C=6.0\text{A}, I_{B1}=I_{B2}=0.6\text{A}$		0.8		0.8	μs

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