

/ Descriptions

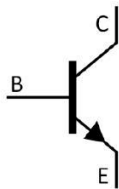
WR0<5 M M E QSQ æ M ç s ll 1 Silicon NPN transistor in

/ Features

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 low power surface mount applications.

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 General amplifier.

/ Equivalent Circuit



PIN1 χ Collector PIN 2 χ Base PIN 3 χ Emitter

/ hFE Classifications & Marking

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/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	600	mA
Collector Power Dissipation	P_C	625	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=10\mu A$ $I_E=0$	60			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_E=10mA$ $I_B=0$	30			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=10\mu A$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=50V$ $I_E=0$			0.01	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=10V$ $I_C=150mA^*$	100		300	
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=150mA$ $I_B=15mA$			0.4	V
	$V_{CE(sat)(2)}$	$I_C=500mA$ $I_B=50mA$			1.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=150mA$ $I_B=15mA$			1.3	V
	$V_{BE(sat)(2)}$	$I_C=500mA$ $I_B=50mA$			2.6	V
Transition Frequency	f_T	$V_{CE}=20V$ $I_C=20mA$ $f=100MHz$	250			MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$			8.0	pF
Turn-On Time	T_{on}	$V_{CC}=30V$ $V_{BE}=0.5V$ $I_C=150mA$ $I_{B1}=15mA$			35	ns
Turn-Off Time	T_{off}	$V_{CC}=30V$ $I_C=150mA$ $I_{B1}=I_{B2}=15mA$			285	ns

*Pulse Test: Pulse Width $\leq 300 \mu s$, Duty Cycle $\leq 2.0\%$

/ Package Dimensions

TO-92

Unit: mm

