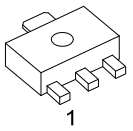
2SC4548

NPN SILICON TRANSISTOR

HIGH VOLTAGE DRIVER APPLICATION



SOT-89

■ FEATURES

* High breakdown voltage.
* Excellent h_{FE} linearity.

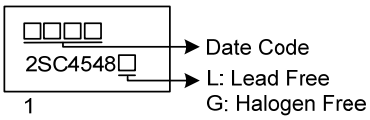
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SC4548L-x-AB3-R	2SC4548G-x-AB3-R	SOT-89	B	C	E	Tape Reel

Note: Pin Assignment: B: Base C: Collector E: Emitter

2SC4548G-x-AB3-R (1)Packing Type (2)Package Type (3)Rank (4)Green Package	(1) R: Tape Reel (2) AB3: SOT-89 (3) x: refer to Classification of h_{FE} (4) G: Halogen Free and Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	400	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	200	mA
Collector Current (PULSE)	I_{CP}	400	mA
Collector Power Dissipation	P_C	1.3	W
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

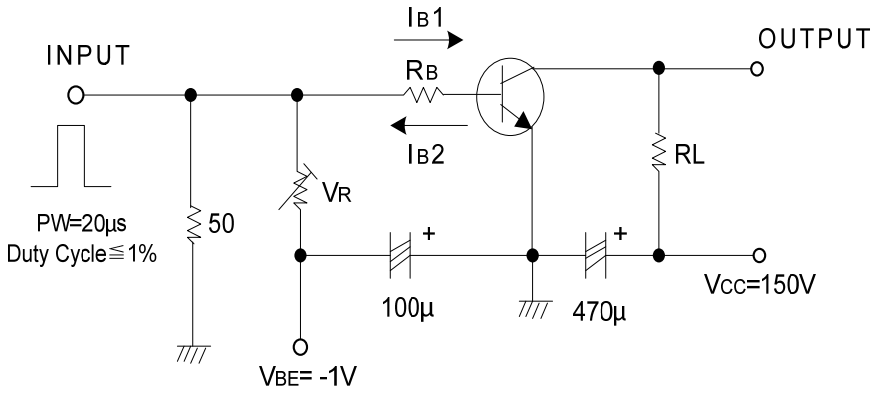
■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collect-Base Breakdown Voltage	BV_{CBO}	I_C= 10μA,I_E=0	400			V
Collect-Emitter Breakdown Voltage	BV_{CEO}	I_C= 1mA,I_B=0,R_{BE}=∞	400			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E= 10μA,I_C=0	5			V
Collector Cutoff Current	I_{CBO}	V_{CB}= 300V,I_E=0			0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V,I_C=0			0.1	μA
DC Current Transfer Ratio	h_{FE}	V_{CE}=10V, I_c=50mA	60		200	
Collect-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=50mA,I_B=5mA			0.6	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C=50mA,I_B=5mA			1.0	V
Output Capacitance	C_{OB}	V_{CB}=30V, f=1MHz		4		pF
Reverse Transfer Capacitance	C_{RE}	V_{CB}=30V,f=1MHz		3		pF
Gain-Bandwidth Product	f_T	V_{CE}=30V,I_C=10mA		70		MHz
Turn-on Time	T_{ON}	See test circuit		0.25		μs
Turn-off Time	T_{OFF}	See test circuit		5.0		μs

■ CLASSIFICATION OF h_{FE}

RANK	D	E
RANGE	60-120	100-200

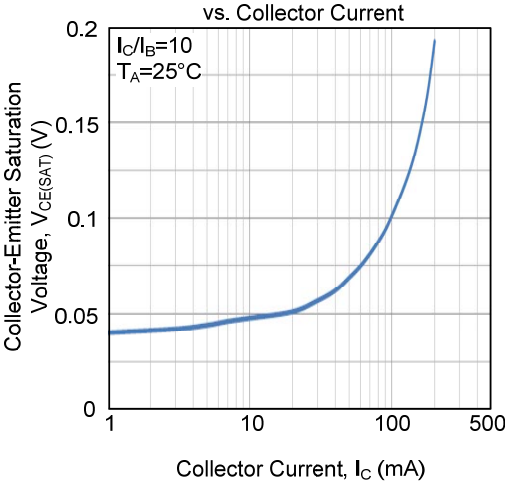
■ TEST CIRCUIT (Unit : resistance : Ω, capacitance : F)



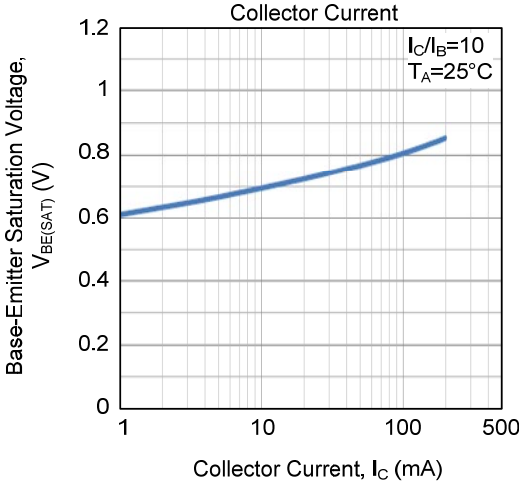
$10I_{B1} = -10I_{B2} = I_C = 50mA$
$R_L = 3k\Omega, R_B = 200\Omega$ at $I_C = 50mA$

■ TYPICAL CHARACTERISTICS

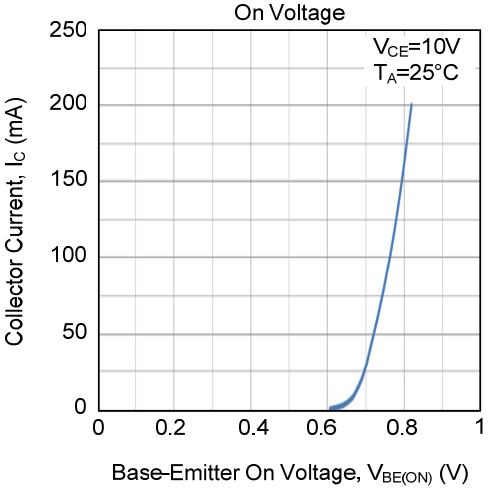
Collector-Emitter Saturation Voltage vs. Collector Current



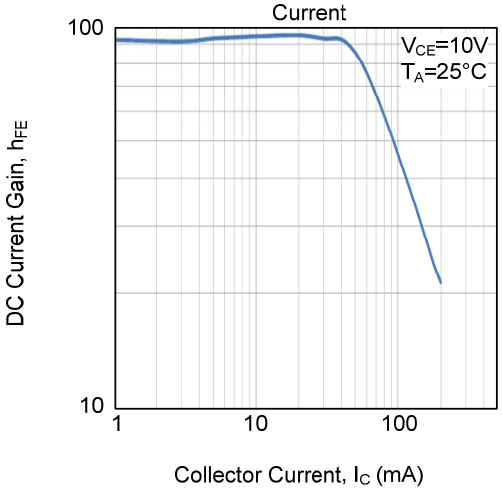
Base-Emitter Saturation Voltage vs. Collector Current



Collector Current vs. Base-Emitter On Voltage



DC Current Gain vs. Collector Current



Safe Operating Area