Hottech Semiconductor

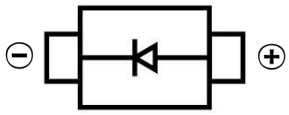
SK52-SK520

SCHOTTKY BARRIER DIODE

FEATURES

- Small Surface Mount device
- Low forward voltage drop
- Low power losses, high efficiency
- High surge current capability

SMC



MECHANICAL DATA

- Case: SMC(DO-214AB)
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.21 grams (approximate)

MAXIMUM RATINGS AND CHARACTERISTICS(T_A = 25°C unless otherwise noted)

Parameter	Symbol	SK52	SK53	SK54	SK55	SK56	SK59	SK510	SK515	SK520	Unit
Marking		SK52	SK53	SK54	SK55	SK56	SK59	SK510	SK515	SK520	
Repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	90	100	150	200	V
RMS Reverse Voltage	V_{RMS}	14	21	28	35	42	56	70	105	140	V
DC Reverse Voltage	V_R	20	30	40	50	60	90	100	150	200	V
Non-Repetitive Peak Forward Surge Current @ t = 8.3 ms	I_{FSM}	150									A
Maximum Average Forward Rectified Current	I_F	5.0									A
Typical thermal resistance (NOTE 1)	$R_{\theta JA}$	55.0									°C/W
	$R_{\theta JL}$	17									°C/W
Junction Temperature	T_J	-50 ~+125					-50 ~+150				°C
Storage Temperature	T_{STG}	-50 ~+150									°C

Note:1.P.C.B. mounted with 0.2x0.2”(5.0x5.0mm) copper pad areas

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

Parameter	Symbol	SK52	SK53	SK54	SK55	SK56	SK59	SK510	SK515	SK520	Unit	Conditions
Forward voltage	V_F	0.55			0.70		0.85		0.90	0.95	V	I_F=5A
Reverse current T_A=25°C	I_R	0.5									mA	$V=V_R$
Reverse current T_A=100°C	I_R	20			10						mA	
Junction capacitance	C_J	200			300						pF	V_R=4V,f=1MHZ

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Typical Characteristics

FIG. 1- FORWARD CURRENT DERATING CURVE

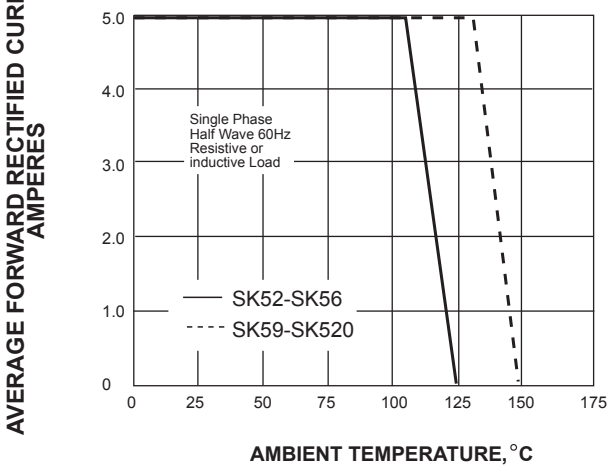


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

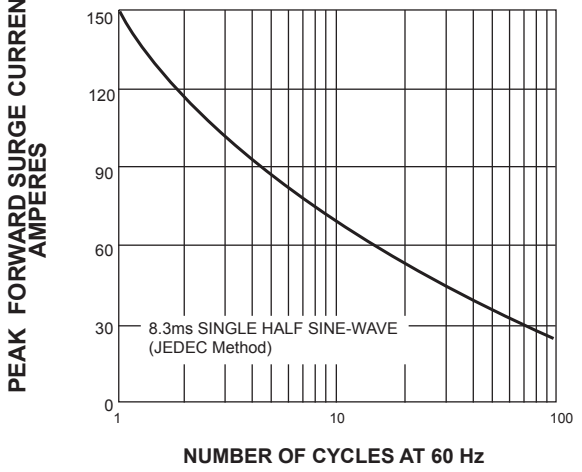


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

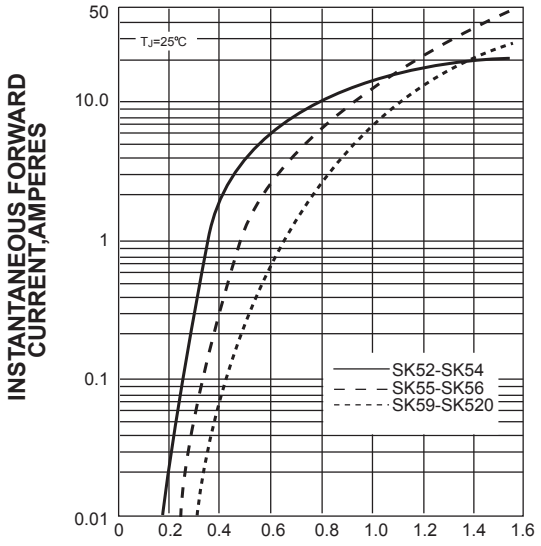


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

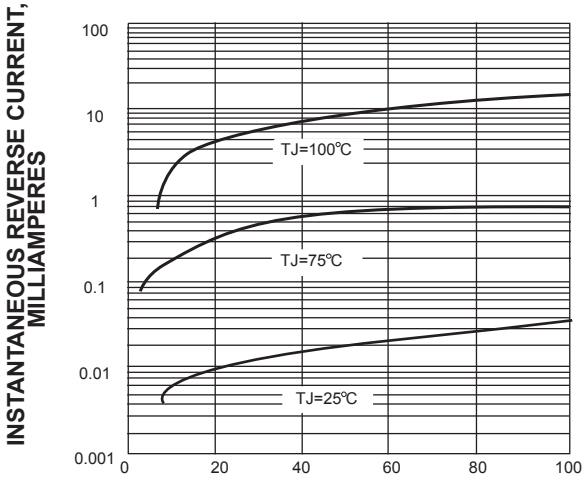


FIG. 5-TYPICAL JUNCTION CAPACITANCE

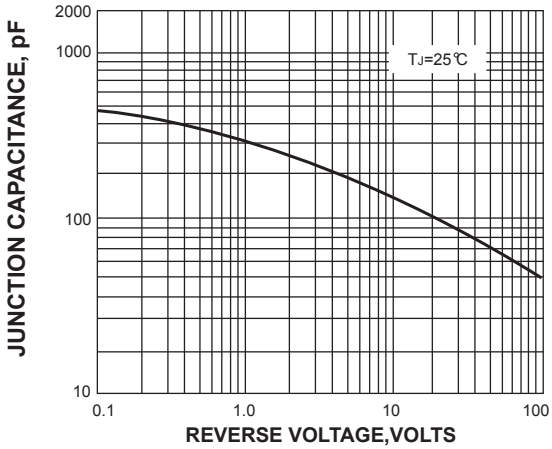
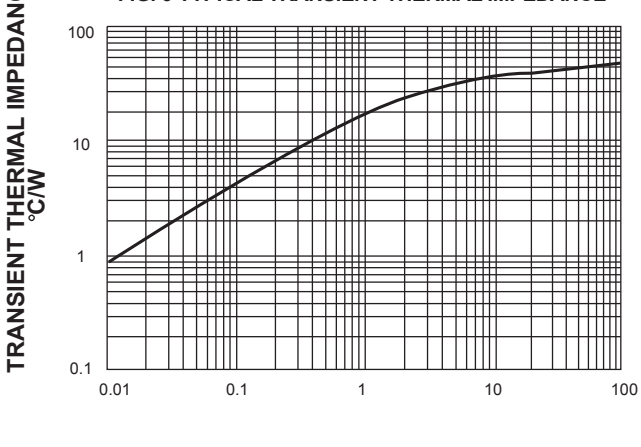
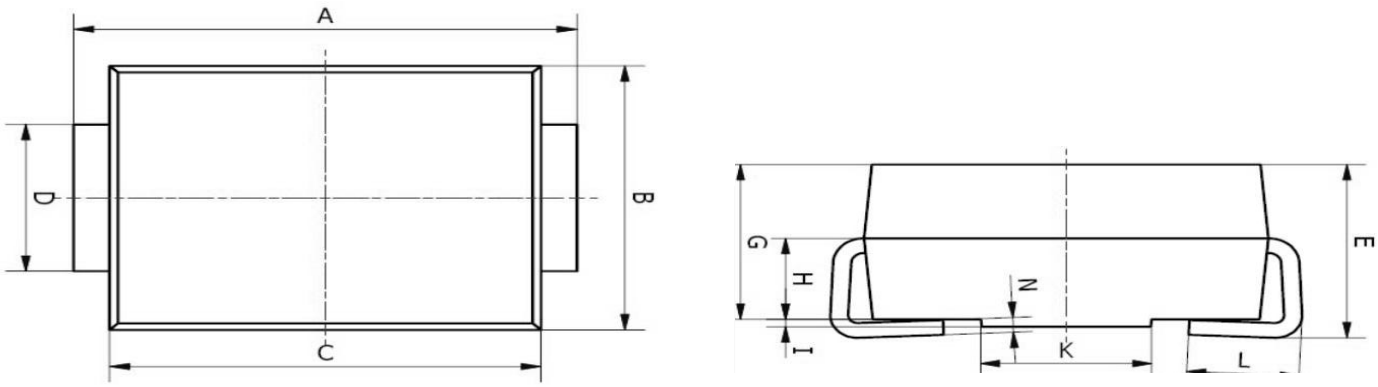


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

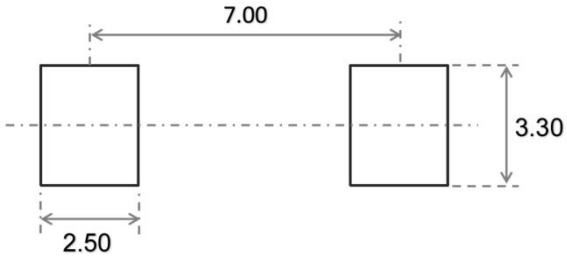


SMC Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	7.75	8.13	0.305	0.320
B	5.59	6.22	0.220	0.245
C	6.60	7.11	0.260	0.280
D	2.75	3.25	0.108	0.128
E	2.25	2.82	0.089	0.111
G	2.00	2.62	0.079	0.103
H	1.26	1.56	0.050	0.061
I	0.05	0.15	0.002	0.006
K	4.30	6.00	0.169	0.236
L	1.25	1.75	0.049	0.069
N	0.10	0.30	0.004	0.012

SMC Suggested Pad Layout



Note:

1.Controlling dimension: in millimeters

2.General tolerance: ±0.05mm

3.The pad layout is for reference purposes only

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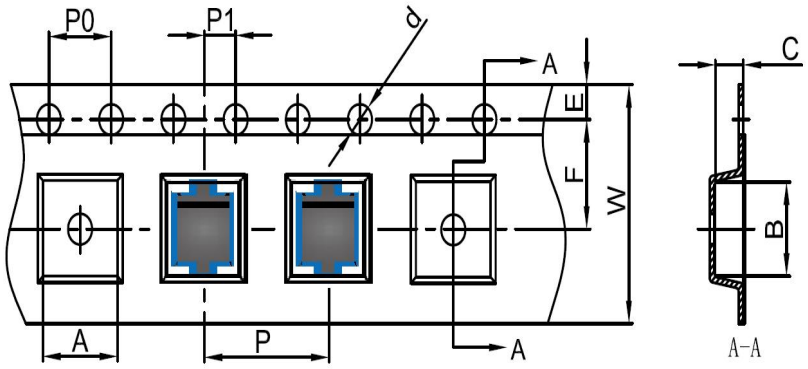
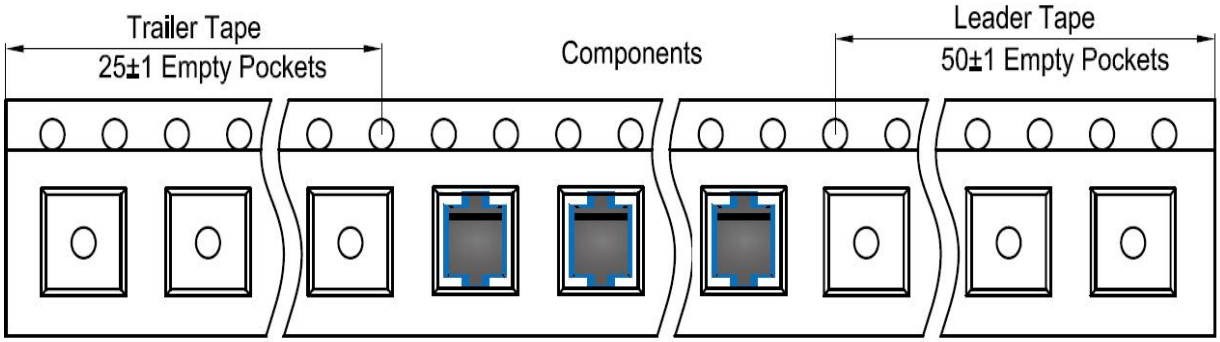
SMC Tape and Reel

SMC Embossed Carrier Tape

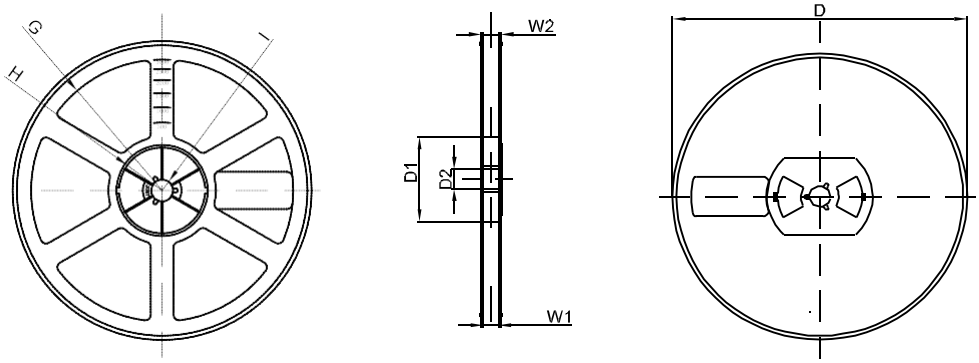


	DIMENSIONS ARE IN MILLIMETER									
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMC	6.3	8.25	2.90	Ø1.55	1.75	7.50	4.00	8.00	2.00	16.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SMC Tape Leader and Trailer



SMC Reel



	DIMENSIONS ARE IN MILLIMETER							
REEL OPTION	D	D1	D2	G	H	I	W1	W2
13” DIA	Ø330	100	21	R165	R50	R6.50	16.4	21.00
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1