

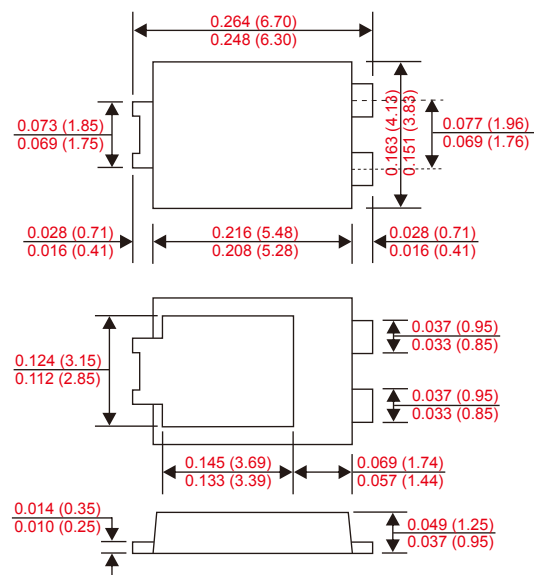
10A Surface Mount Trench Schottky Rectifier

Features:

- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Halogen-free part
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

Mechanical Data:

- Epoxy : UL94-V0 rated flame retardant.
- Case : Molded plastic, TO-277B.
- Lead : Solder plated, solderable per MIL-STD-750, Method 2026.
- Mounting Position : Any.
- Weight : Approximated 0.093 grams.



TO-277B

Dimensions in inches and (millimeters)

Main Product Characteristics

$I_{F(AV)}$	10A
V_{RRM}	45V
T_J	150°C
$V_{F(TYP)}$	0.41V

Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Circuit Diagram



Parameter	Conditions	Symbol	KP10S45SG	UNIT
Peak repetitive reverse voltage		V_{RRM}	45	V
Working peak reverse voltage		V_{RWM}		
DC blocking voltage		V_{RM}		
Forward rectified current		I_O	10	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	I_{FSM}	120	A
Thermal resistance	Junction to case	R_{BJC}	10	°C/W
	Junction to ambient	R_{BJA}	35	
Storage temperature		T_{STG}	-55 ~ +150	°C
Operating Junction temperature		T_J	-55 ~ +150	°C

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 0.5mA, T_J = 25°C$	$V_{(BR)R}$	45			V
Forward voltage drop	$I_F = 5A, T_J = 25°C$	V_F			420	mV
	$I_F = 10A, T_J = 25°C$			460	470	
	$I_F = 10A, T_J = 125°C$			410		
Reverse current	$V_R = V_{RRM}, T_J = 25°C$	I_R		0.06	0.3	mA
	$V_R = V_{RRM}, T_J = 125°C$			40	80	

■ Rating and characteristic curves

Fig. 1 - Instantaneous Forward Characteristics

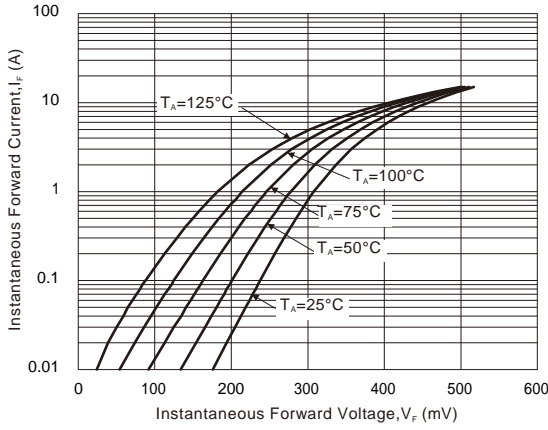


Fig. 2 - Reverse Characteristics

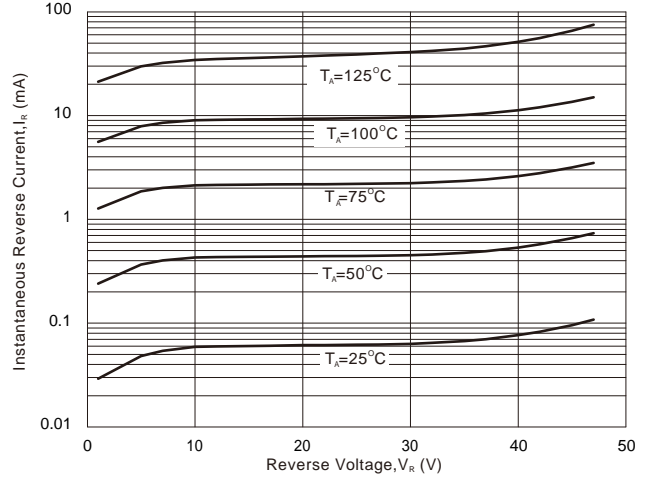


Fig. 3 - Forward Power Dissipation

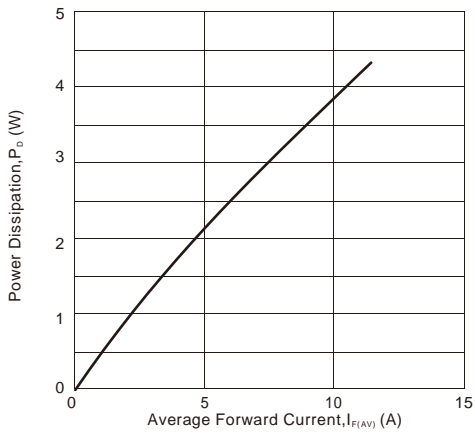


Fig. 4 - Forward Current Derating Curve

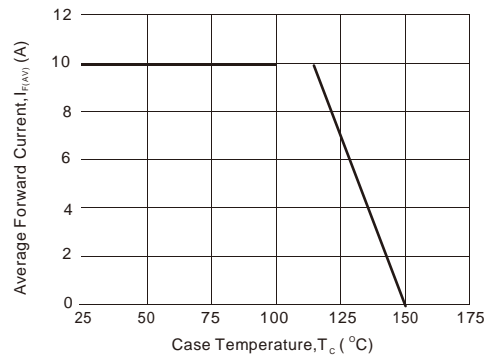
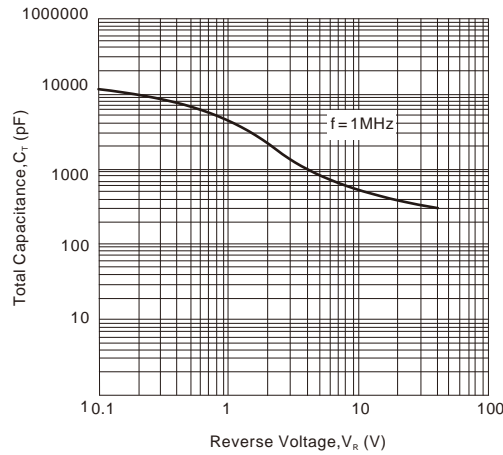
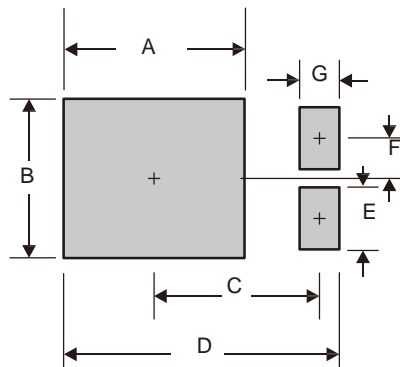


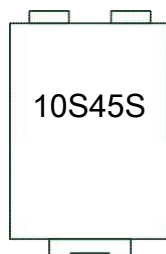
Fig. 5 - Total Capacitance VS. Reverse Voltage



■ TO-277B foot print



■ Marking information



A	B	C	D	E	F	G
0.185 (4.70)	0.142 (3.60)	0.152 (3.87)	0.260 (6.60)	0.055 (1.40)	0.035 (0.90)	0.031 (0.80)

Dimensions in inches and (millimeters)

■ Ordering/Packing information

Part number	Case	Q' TY/Reel (PCS)	Q' TY/Box (PCS)	Q' TY/Carton(PCS)
KP10S45SG	TO-277B	5,000	10,000	40,000

- Notes :
1. Halogen-Free product.
 2. Halogen-Free defined follow IEC61249-2-21