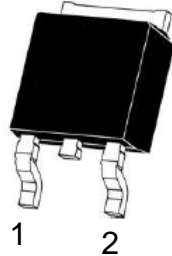




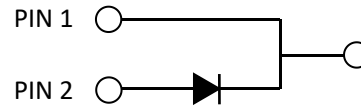
### APPLICATION

- power factor correction
- pv inverters



### Product Summary

$V_{RRM}$	650	V
$I_F$	4	A



### Maximum Ratings ( $T_c = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Value	Unit	Test Conditions	Note
$V_{RRM}$	Repetitive Peak Reverse Voltage	650	V		
$V_{RSM}$	Surge Peak Reverse Voltage	650	V		
$V_{DC}$	DC Blocking Voltage	650	V		
$I_F$	Continuous Forward Current	4	A	$T_C=150^\circ\text{C}$	
$I_{FRM}$	Repetitive Peak Forward Surge Current	20	A	$T_C=25^\circ\text{C}$ , $t_p=10$ ms, Half Sine Wave,	
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current	26	A	$T_C=25^\circ\text{C}$ , $t_p=10$ ms, Half Sine Wave	
$I_{F,Max}$	Non-Repetitive Peak Forward Surge Current	200	A	$T_C=25^\circ\text{C}$ , $t_p=10$ $\mu\text{s}$ , Pulse	
$P_{tot}$	Power Dissipation	76.5 33.2	W	$T_C=25^\circ\text{C}$ $T_C=110^\circ\text{C}$	
$\int i^2 dt$	$I^2t$ value	3.3	$\text{A}^2\text{s}$	$T_C=25^\circ\text{C}$ , $t_p=10$ ms	
$T_J, T_{stg}$	Operating Junction and Storage Temperature	-55 to +175	$^\circ\text{C}$		

### Electrical Characteristics

Symbol	Parameter	Typ.	Max.	Unit	Test Conditions	Note
$V_F$	Forward Voltage	1.5 1.8	1.8 2.0	V	$I_F=4$ A $T_J=25^\circ\text{C}$ $I_F=4$ A $T_J=175^\circ\text{C}$	
$I_R$	Reverse Current	1 12	20 100	$\mu\text{A}$	$V_R=650$ V $T_J=25^\circ\text{C}$ $V_R=650$ V $T_J=175^\circ\text{C}$	
$Q_C$	Total Capacitive Charge	9.5		nC	$V_R=400$ V, $T_J=25^\circ\text{C}$ $Q_C=\int_0^{V_R} C(V)dV$	
$C$	Total Capacitance	185 19.0 16.7		pF	$V_R=0$ V, $T_J=25^\circ\text{C}$ , $f=1$ MHz $V_R=200$ V, $T_J=25^\circ\text{C}$ , $f=1$ MHz $V_R=400$ V, $T_J=25^\circ\text{C}$ , $f=1$ MHz	
$E_C$	Capacitance Stored Energy	2.4		$\mu\text{J}$	$V_R=400$ V	



Thermal Characteristics

Symbol	Parameter	Typ.	Unit	Note
$R_{\theta JC}$	Thermal Resistance from Junction to Case	1.96	$^{\circ}C/W$	

Typical Performance

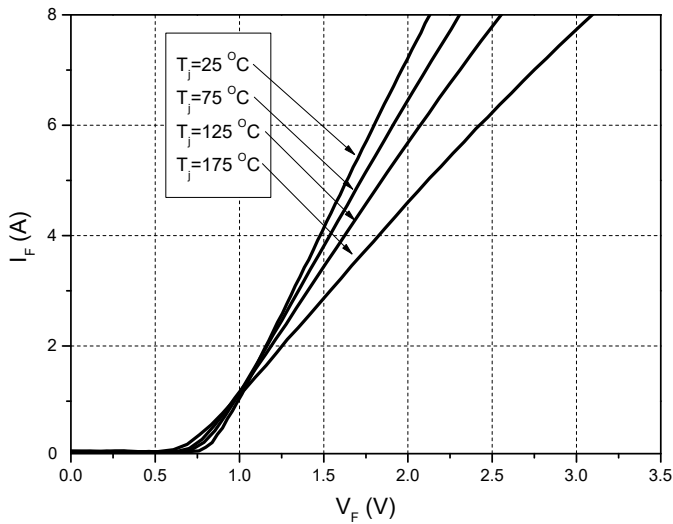


Figure 1. Forward Characteristics

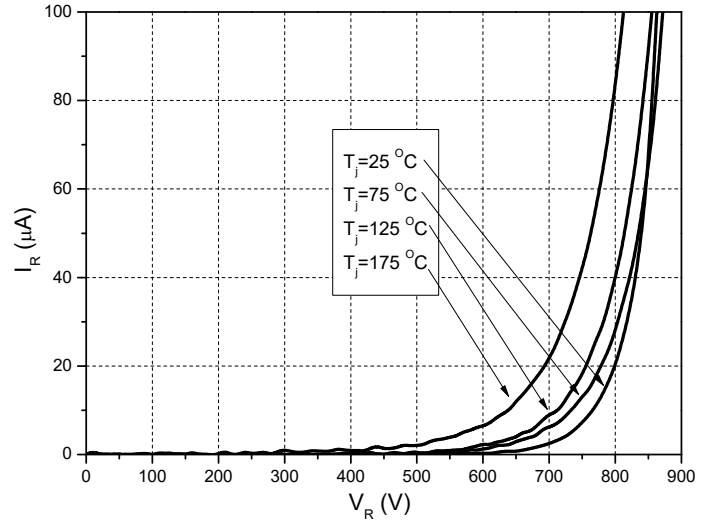


Figure 2. Reverse Characteristics

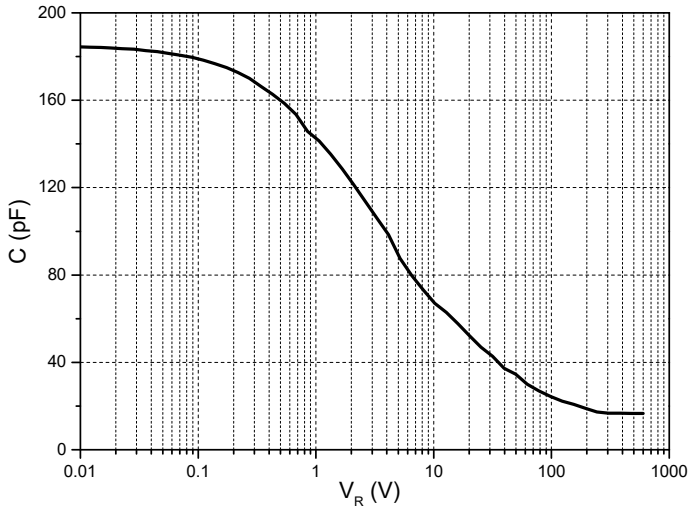


Figure 3. Capacitance vs. Reverse Voltage

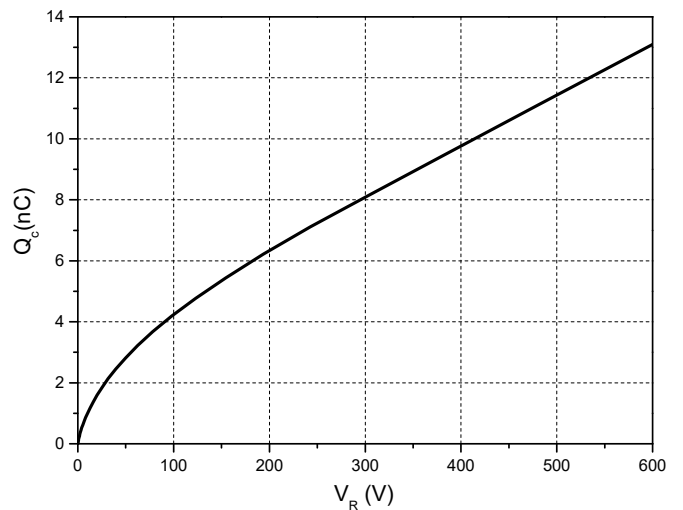


Figure 4. Total Capacitance Charge vs. Reverse Voltage

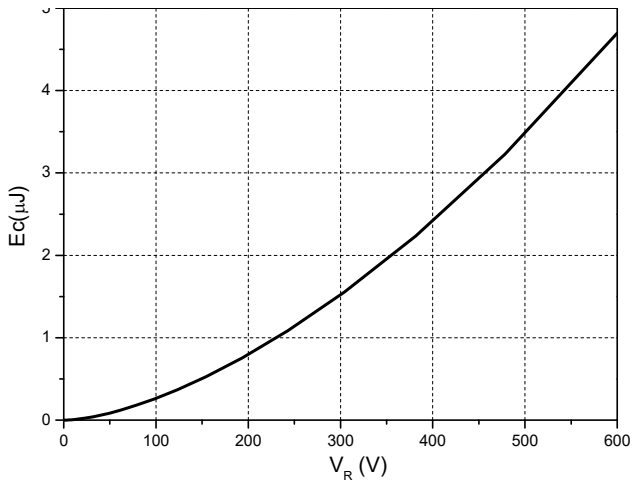


Figure 5. Capacitance Stored Energy

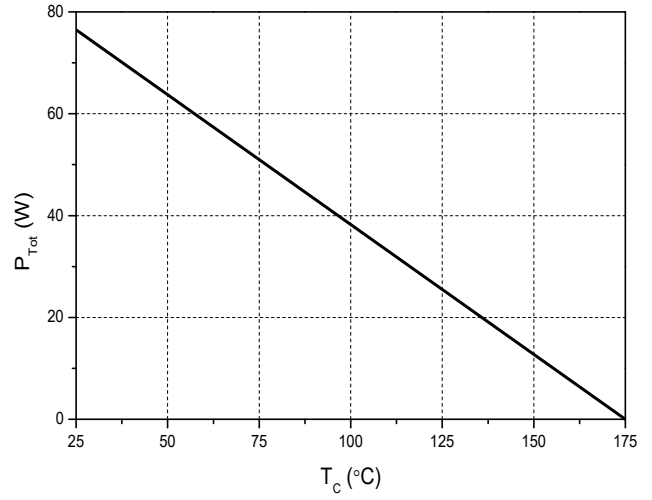


Figure 6. Power Derating

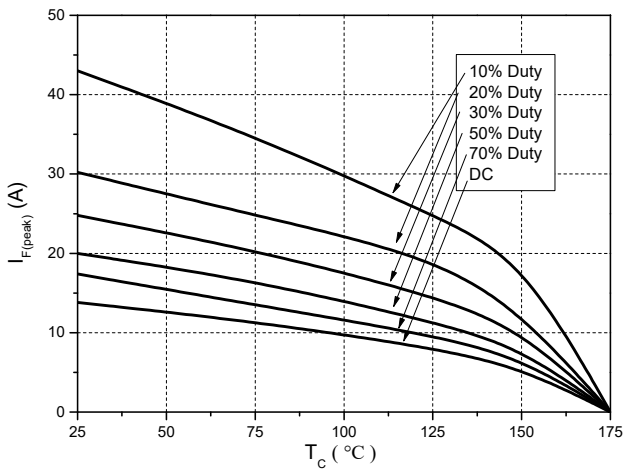


Figure 7. Current Derating

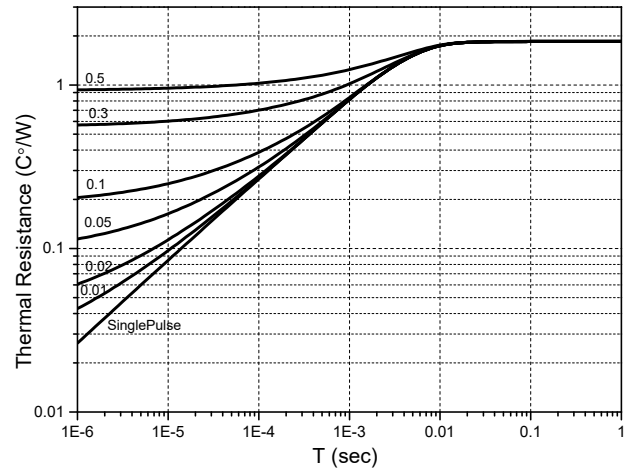


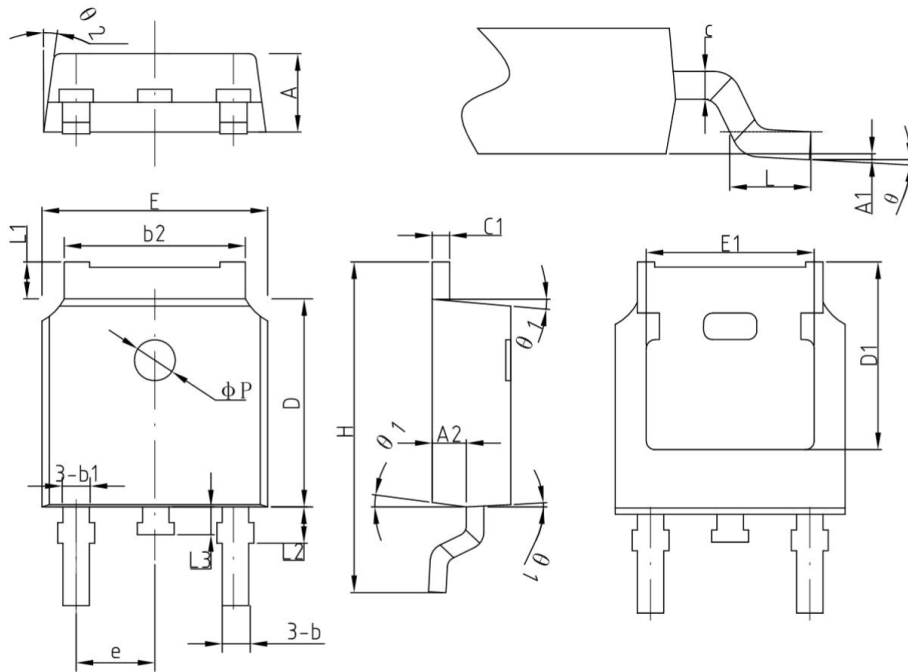
Figure 8. Transient Thermal Impedance

## Ordering and Marking Information

Ordering Device No.	Marking	Package	Packing	Quantity
ASC04065KQ-R	正面丝印	TO-252	Tape&Reel	2500/Reel

PACKAGE	MARKING
TO-252	

**Package Dimensions**



COMMON DIMENSIONS  
(UNITS OF MEASURE=MILLIMETER)

SYMBOL	MIN	NOM	MAX
A	2.2	2.30	2.38
A1	0	-	0.10
A2	0.90	1.01	1.10
b	0.71	0.76	0.86
b1		0.76	
b2	5.13	5.33	5.46
c	0.47	0.50	0.60
c1	0.47	0.50	0.60
D	6.0	6.10	6.20
D1	-	5.30	-
E	6.50	6.60	6.70
E1	-	4.80	-
e	2.286BSC		
H	9.70	10.10	10.40
L	1.40	1.50	1.70
L1	0.90	-	1.25
L2		1.05	
L3		0.8	
$\phi P$		1.2	
$\theta$	0°	-	8°
$\theta_1$	5°	7°	9°
$\theta_2$	5°	7°	9°

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